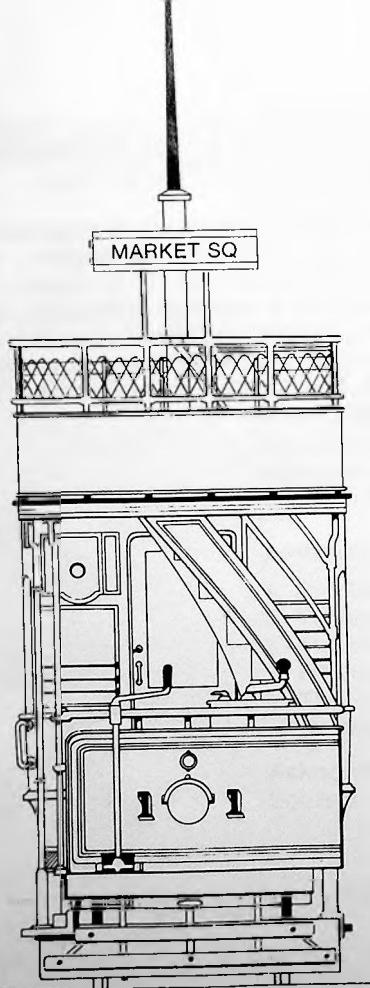


Peterborough Tramways

Peterborough Papers No. 1

by G.D. Austin





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General Editor: C. E. C. Burch, Deputy Chief Archivist, Northamptonshire Record Office
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Editor's Note

It has been apparent that scope existed for a series of works dealing in more detail with particular aspects of Peterborough's past. A working party was set up consisting of Barry Hall, the (then) City Librarian, Wyn Sheryn, of the Development Corporation, and myself of the Northamptonshire Record Office. It met originally under the Greater Peterborough Joint Social Facilities Committee and latterly as a sub-committee of the Greater Peterborough Arts Council.

Peterborough Tramways is the first of these "Peterborough Papers". Publication has been made possible by support from the Peterborough Development Corporation, the Peterborough City Council, the Greater Peterborough Arts Council and the Cambridgeshire County Council. It is hoped, if this Paper proves a success, to follow with a "Peterborough Picture Book, 1880-1930",

and other suggested titles include, "Prehistoric Man in the Nene Valley", "Cycling in Peterborough" and "Immigrant Groups in Peterborough".

I take this opportunity of thanking all those who have helped me in the editing of this book, and of congratulating the author, Mr. G. P. Austin, native of Peterborough and tramway enthusiast, on his unflagging and cheerful industry and on the breadth and authenticity of his production. I look forward to its success and to that of many other "Peterborough Papers".

Clive Burch



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The front cover shows the first day of the trams, in Long Causeway — 1903.

The back cover shows a drawing of tram No. 1.

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Introduction

When, in the Spring of 1973 Anglia Television decided to put on a documentary called a "Farewell to Trams", the producers put appeals for information in the local press, and results were far beyond their expectations, a flood of information arriving at their Norwich office. The tramcar is second only to the railways in the number of enthusiasts, some of whom work like beavers in their spare time restoring to their former glory tramcars that had become chicken houses, sports pavilions and the like. Crich Tramway Museum¹ in Derbyshire has a steady stream of visitors to ride on the restored cars, visitors not by any means solely confined to those of middle age. An occasion three or four years ago comes to mind when, while a motor coach was disgorging its passengers, obviously on a special trip, a little boy of about ten years old, with a decidedly Northern accent, was asking excitedly, "Mum, are we going to ride on a Blackpool Balcony car?". Indeed, at that moment the Balcony car did arrive, swaying in the stately way that only tramcars could. The tram was a liberator of the working classes, bringing cheap travel to the races, the park, beauty spots; trams ran to the very edge of the Pennines. The names the cars received evince the affection with which they were regarded: "Room and Kitchen", "Cunarder", "Coronation" in Glasgow, "Lance Corporal" in Leeds, "Green Goddess" and "Baby Grand" in Liverpool. Everyone travelled by tram, and as colleague of mine once put it, when the driver went aboard with his tin box, he was the ship's captain. Those who remember travelling on the trams will find the comparison not inapt, there were handles to be wound with the sound of ratchets, a gong-ringing code between driver and conductor, the hum of motors and away.

Much of this little book² will be known by tramway enthusiasts, but it has been prepared with the tramless generation now growing up in mind. When the present development of

Peterborough was first mooted in the mid-60's I had visions of restoring the importance of the City's trams, and prepared plans for a rapid transit system from Walton to Stanground, with possible later extensions to Spalding and Whittlesea. These plans were studied by the feasibility planner Mr. Hancock, and at a subsequent meeting with the Peterborough & District Trades Council, Mr. Hancock said that he liked the scheme, but was afraid that to those who were to provide the cash anything that ran on rails was anathema. At that time, of course, the Middle East oil sheiks had not woken from their slumbers!

Sedan Chairs

This form of transport was in use in Peterborough over a long period of time. In the eighteenth century there was no scale of charges, and patrons were never certain how large a tip to give. In 1797 a Committee was formed to regulate the scale of charges for the use of sedan chairs, and in 1798 an office was set up in Westgate, the co-ordinating manager being a Mr. Henry Walker. The scale of charges was as follows: "To and from a Dinner or Tea Visit one shilling. To and from an Assembly or Ball one shilling and sixpence"; if the chair was kept waiting beyond the agreed time the charge was sixpence per half-hour.

Sedan chairs were still to be seen in the City at quite a late date. Miss Percival³ herself informed Mr. Harry Tebbs the well-known local historian that she travelled by sedan chair in 1864 from the Minster Precincts to the Mansion House in Westgate. The Peterborough Directory of 1869 shows a Mr. M. Jackson of Saint Leonards Street as a sedan chair operator, and Peterborough's last sedan chair man was Frederick Jackson (doubtless a relative) of Gladstone Street who, with his father and uncle had a fleet of three chairs, the finest of which had been purchased from Dr. Strong of Thorpe Hall.

¹ See Appendix 4.

² It is based on the article, "The Tramways of Peterborough", by the author in **The Tramways Review**, Vol. 5, Issue 38, 1964

³ Daughter of Andrew Percival, Peterborough solicitor and local historian.

In a "Peterborough Advertiser" of the mid-1920's, there appeared a picture of Mr. Frederick Jackson's nephew assisting Mr. Bluck to carry one of the Jackson family chairs to Mr. Bluck's curiosity shop in Queen Street.

Horse Omnibuses

Even before the demise of the sedan chairs public wheeled transport had made its appearance in Peterborough. In 1853 the Great Northern Railway Company completed its first locomotive sheds on land to the north of the City purchased from the Bishop of Peterborough. In the following year was begun the construction of cottages for railway employees, 250 being completed in five stages, as well as a Methodist Chapel in 1857. By 1891 there were two schools, shops, a Mechanics' Institute, a Reading Room, a gas works and a Recreation Ground. The Railway Company met two-thirds of the cost of St. Paul's Church, opened in 1869. There were more than 80 miles of track in the depot itself, and in Victorian England the whole project was considered so modern that the inhabitants soon named the area "New England", and almost from the outset this name was officially recognised. Although the official name for the cottages was Great Northern Cottages, to the local populace they soon became known as the "Railway Barracks" or just "The Barracks". Sir John Betjeman⁴ waxed enthusiastic over these cottages, and suggested that they should be preserved. Whatever view might be taken of this enthusiasm, the Local Authority has renovated the row facing on to Lincoln Road, thus saving them from destruction.

In the "Peterborough Advertiser" in 1857 there appeared a notice to the effect that Mr. Chamberlain's omnibus would journey six times each Saturday from New England to the Market Place. Unfortunately there is no fare table given. In the 1860's the Great Northern Railway began a morning and evening train service for workmen to and from New England and Peterborough.

Where the railways had not yet penetrated, the main means in these times of getting from the countryside to the towns was by carrier's cart. The Peterborough Directory of 1871 lists 48 separate carriers, calling at each village through which they passed on their way to Peterborough. The carts had seats along each side for the passengers, and the destination in Peterborough would be the particular inn where the carrier stabled his horses. On market days carrier's carts could be found lined up in Cumbergate, Midgate (outside where Peterscourt now stands), the Cattle Market, Wagon and Horses Yard (Woolworths is there now), and other places in the City centre. The errand boys knew exactly where to find the carts, and I recall that in the 1930's I used to take one cart a crate of strong ale for a vicar in a nearby village; being somewhat innocent I always used to wait until dark before creeping round to Cumbergate.

⁴ In the local press in 1969.



1.

Wagonette, c.1885. Wagonettes were licensed as omnibuses to carry eight passengers. Photo courtesy Peterborough Museum and Art Gallery.

2.

Horse 'bus en route for Stanground,
c.1900. Drivers and conductors were
not provided with uniform.
Photo courtesy Peterborough
College of Adult Education.



In the early 1880's Mr. Elkington, landlord of the "Greyhound", New England, started running a wagonette⁵ from there into the City, while a little later Mr. Charles Baldwin, who kept a general shop opposite the fountain at New England, and was also a cab proprietor, had a horse omnibus built. This was a two-horse open vehicle, seating some six or seven passengers on each side; it ran on Wednesdays and Saturdays between the fountain and the "Black Boy and Trumpet" in Long Causeway. A little later Mr. Baldwin had a double-deck horse-'bus built, seating 30 passengers, also plying on Wednesdays and

Saturdays. He called the 'bus "The Champion". Mr. John Casbon, sub-postmaster at New England and next-door neighbour of Mr. Baldwin, had a closed omnibus which was put into service during the Boer War, and appropriately named "Baden Powell".

In 1896 Mr. William Bailey, auctioneer, valuer and landlord of the "Swan" in Midgate, inaugurated The Peterborough Omnibus Company. He and his sons, Charles and Harry, bought a fleet of 'buses and sixty horses, and plied between Long Causeway, Werrington, New England, Woodston, Fletton, Stanground, Farcet and Longthorpe. Stabling was centred in Evans' Yard, in St. John's Street, and each 'bus was allocated eight horses for a day's work, a change being made every two hours. Buses going south changed horses at the "Talbot" in Long Causeway, while those going north changed at the "Salmon and Compass" on the opposite side of the street. Elderly relatives who could recall Mr. Bailey quite well, informed me that his company carried on with a fair amount of success. Until demolition about two years ago residents of the Boongate area always referred to Evans' Yard as "Bus Yard", and many, I am sure, would not be aware of the reason. Little can be found out about the fares on the horse buses, but the rate must have been around 1½d a mile, as the fare to Longthorpe from the City centre, a distance of two miles, was 3d.

Plans for Horse Trams

In 1879 two firms of promoters were seeking powers to operate Horse Tramways in Peterborough. At a Special Meeting of the City Council on 20th November, called to enquire into the matter of Horse Tramways, several Councillors complained that existing transport services were both expensive and inconvenient. Councillor Taylor stated that to travel from the Great Northern Station to Eastfield, for example, one was first trundled to the Great Eastern Station, off the direct route.

⁵ A four-wheeled carriage with a seat or bench on each side facing inwards and with one or two seats arranged crosswise in front.

More often than not, he said, passengers were deposited right onto the muddy road, and he added that the drivers were often rude.

There were two schemes before the Council: from Speight & Sons of Leeds, for a gauge of three feet, and from Winby of Nottingham, for a gauge of four feet. A system constructed by Winby was already in operation in Nottingham. One Council Member drew attention to the safety of the Great Western Railway on whose broad gauge (7 feet and $\frac{1}{4}$ inch), he informed the Council, he had actually travelled "Three feet", he said, "was definitely not safe, and the broader gauge should be adopted."

Mr. Winby explained that his work would be carried out on the new principle, introduced by him at Nottingham, and known as the "Tension Girder Tramway Patent". This, he said, had the merit of great strength; damaged and worn rails could be replaced without interference to other traffic, necessitating the removal of only a dozen or so granite blocks. At Nottingham the track was known as the Winby and Levick system and consisted of flat-bottom, grooved, tramway-type rails laid longitudinally on broad iron plates, which in turn rested on consolidated macadam or other road material; this was believed to make up a sufficient foundation without concrete. The base plates were 12 inches wide and $\frac{1}{4}$ inch thick, in lengths 11 feet 11 inches long, and were laid continuously in order to avoid the plate joints and the rail joints coming together as the rails were in 24 foot lengths. The cost of laying the track was £2,000 per mile, but, because the foundation proved unsuitable, considerable maintenance difficulties arose later on. Although Winby's company constructed the Nottingham track, it was operated by the Nottingham and District Tramway Company, Chairman Alderman Gilpin, Manager Gideon Herbert. The first tram ran on Thursday, 17th September, 1878. The average working week of the tram crews and depot men was at first anything between 80 and 90 hours, and a 16-hour term of duty was commonplace. Conductors received 16 shillings per week when working and a shilling a day when not working.



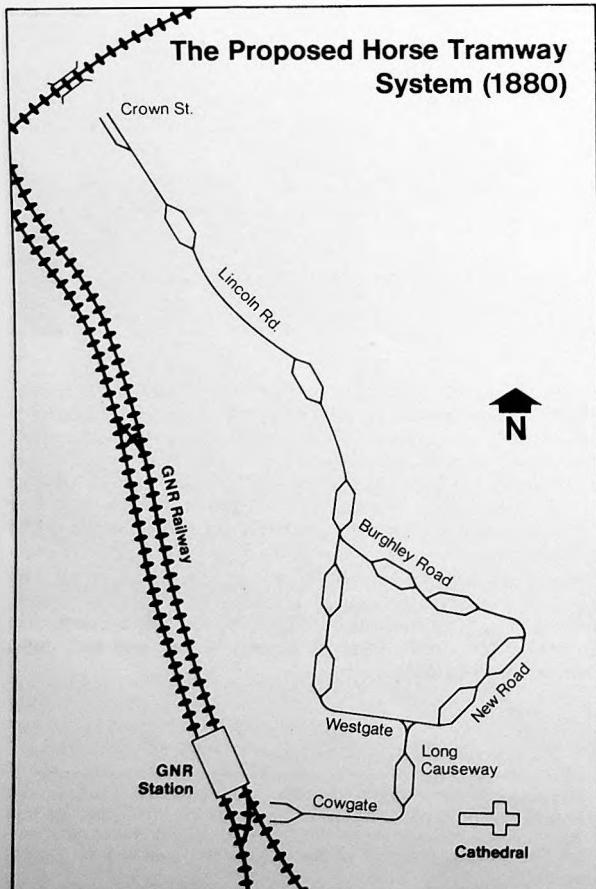
3.

City of Nottingham horse tram, c.1880. The system was constructed on Mr. Winby's patent principles. Photo courtesy Photomatic Ltd., Hatfield.

Before the conclusion of the Council Meeting at Peterborough, the Clerk was instructed to write to the Nottingham Corporation to enquire whether Mr. Winby's system was successful. The Town Clerk of Nottingham in due course replied that the tram service in his City had given every satisfaction. There is no further mention of Windby's or Speight's proposals in the Council minutes, although both firms published details in the local press.

Before the receipt of the reply from the Town Clerk of Nottingham, at the normal Council Meeting on 22nd November, 1879, a third proposal was submitted by the City's Consulting Engineer, Mr. John Addy of Queen Street, and Mr. John Graves⁶ of Priestgate.

⁶ Graves, a Peterborough solicitor, was the last Clerk to the Improvement Commissioners, and became the first Town Clerk in 1874 on the establishment of the City Council. Addy was responsible for the establishment of the City's water supply from Braceborough.



This proposal got as far as the inspection of the proposed route by General Hutchinson on behalf of the Board of Trade, and the making of the Provisional Order⁷ in 1880. Sections 4-7 of the Order which give details of the tramway routes authorised, run as follows:

"Promoters

4. John Addy of Queen Street, Peterborough, and John Graves of Priestgate, Peterborough, and the survivor of them, and the executors or administrators of such survivor, their or his assigns, shall be Promoters for the purposes of this Order, and are in this Order referred to as 'the Promoters'.

5. The Promoters may, by agreement, from time to time purchase and acquire for the purposes of the undertaking such lands as they may require, and may from time to time sell or dispose of any such lands which may not be necessary for such purposes, provided that they shall not at any time hold for such purposes more than five acres of land.

Construction of Tramways

6. The Promoters may construct and maintain, subject to the provisions of this Order, and in accordance with the plans and sections deposited for the purpose of this Order, the tramways hereinafter described, with all proper rails, points, junctions, plates, offices, weighbridges, stables, carriage-houses, warehouses, works, and conveniences connected therewith, or for the purposes thereof, and may work and use the same. The tramways authorised by this Order are:

Tramway No. 1 (two miles one furlong and two chains or thereabouts in length, of which one furlong eight chains or thereabouts is double line, and one mile seven furlongs and four chains or thereabouts is single line), commencing in Lincoln Road, one chain or thereabouts south-east of Crown

⁷ By the Board of Trade, under the Tramways Act of 1870.

Street, and passing thence south-eastward and south along Lincoln Road, Boroughbury, Westgate, Long Causeway, Market Place, Church Street, Cowgate and terminating in Cowgate, two chains or thereabouts west of the Great Northern Railway Station approach road.

Tramway No. 1 shall be a single line, except at the following places, where it shall be a double line:

1. In Lincoln Road, at the following places, between the respective points following: (that is to say.)
 - (A) One chain or thereabouts, and three chains or thereabouts, south-east of Crown Street;
 - (B) Three and a half chains or thereabouts, and half a chain or thereabouts, north-westward of Newborough Road;
 - (C) Four and a half chains or thereabouts, and one and a half chains or thereabouts, north-westward of Alma Road;
 - (D) Five chains or thereabouts, and seven chains or thereabouts, south-eastward of Taverner's Lane;
 - (E) Two and three-quarters chains or thereabouts, and three-quarters of a chain or thereabouts, north of Saint Mark's Street;
2. In Boroughbury, between points three chains or thereabouts, and one chain or thereabouts, north of the north side of Westgate;
3. In Long Causeway, between points one chain or thereabouts, and three chains or thereabouts, south of Midgate;
4. In Cowgate, for one chain in length, between points one chain or thereabouts, and two chains or thereabouts, west of the Great Northern Railway Station approach road;

Provided always that in Cowgate, from a point opposite the wall forming the eastern boundary of the burial ground to a point measuring sixty yards westward of the said wall, Tramway No. 1 shall be so laid that the distance between the outside of the footpath on the north side of the road and the rail of the tramway nearest to the said footpath shall not exceed two feet.

Tramway No. 2 (seven furlongs three chains or thereabouts in length, of which eight chains or thereabouts is double line, and six furlongs five chains or thereabouts is single line), commencing by a junction with Tramway No. 1, in Lincoln Road, three chains or thereabouts north of Cobden Street, and passing east along Lincoln Road East, Monument Street, Cemetery End, New Road, Midgate and Long Causeway, and terminating by a junction with Tramway No. 1, in Long Causeway, half a chain or thereabouts south of Midgate.

Tramway No. 2 shall be a single line, except at the following places where it shall be a double line:

1. In Lincoln Road East, at the following places between the respective points following (that is to say.)
 - (A) Six chains or thereabouts, and four chains or thereabouts, west of Henry Street;
 - (B) Two and a half chains or thereabouts, and half a chain or thereabouts, north-westward of Park Road;
2. In Cemetery End between points half a chain or thereabouts, and two and a half chains or thereabouts, south of Whalley Street;
3. In New Road between points of five chains or thereabouts, and three chains or thereabouts, north-east of Brook Street.

Tramway No. 3 (single line) (one and a quarter chains or thereabouts in length), commencing by a junction with Tramway No. 1, in Lincoln Road, one and three-quarter chains or thereabouts, north of Cobden Street, and terminating by a junction with Tramway No. 2, in Lincoln Road East six chains or thereabouts north-westward of Henry Street.

Tramway No. 4 (single line) (one chain or thereabouts in length), commencing by a junction with Tramway No. 1, in Westgate, opposite the west side of Long Causeway, and terminating by a junction with Tramway No. 2, in Midgate, opposite the east side of Long Causeway.

The above tramways will pass from, through, or into, or be situate in, the Parish of Saint John the Baptist, Peterborough, the borough and liberty of Peterborough, in the County of Northampton.

7. The tramways shall be constructed on a gauge of three feet and six inches. Provided always, that so much of section thirty-four of the Tramways Act, 1870, as limits the extent of the carriage used on any tramway beyond the outer edge of the wheels of the carriage shall not apply to carriages used on the tramways, but no carriage used on the tramways shall exceed six feet four inches in width."

However, because of the termination of Mr. Addy's appointment to the Council, and the removal of Mr. Graves from the City on his appointment as Town Clerk of Salford, the horse tramway was not proceeded with. In the minutes of the Council there is a not too clear reference to a dispute between the Council and Mr. Addy over the proposed tramway, and it is possible that this had some connection with the termination of his appointment. In any event, it would seem that Mr. Addy and Mr. Graves between them had circumvented the installation of a horse tramway rather than promoted it.

Electric Trams

The British Electric Traction Company.

The British Electric Traction Company was formed in October, 1896, the object of the Company being the development of tramways throughout the British Isles, by the promotion and construction of new lines, and by obtaining control of and electrifying existing horse and steam tramways. The Company was initiated by Emile Garcke, a naturalised Englishman, born in Germany 1856, who had been with the Brush Electrical Company of Loughborough from 1883 to 1893 as Secretary, Manager and Managing Director. His fellow members of the Board were J. S. Raworth, who had been with Messrs. Siemens electrical works at Woolwich, and, latterly, Brush & Co., and Stephen Sellon, who had been in charge of civil engineering and light railway projects over a number of years. Emile was ably assisted by his son Sidney in the running of this, the largest financial tramway group in the British Isles.



4.

Narrow Bridge Street (c.1895), the obstacle to the southern part of the proposed scheme for electric trams.
Photo courtesy Peterborough College of Adult Education.

In May, 1899, the Company applied to the Light Railway Commissioners for an Order under the Light Railways Act, 1896, authorising light railways in the Soke of Peterborough, the City of Peterborough and Woodston.

A note on the Light Railway Commissioners. This body was established in 1896, with power to make Orders which, after confirmation by the Board of Trade, needed no further confirming Act of Parliament. Application for powers could be made by any Local Authority, except a Parish Council, singly or jointly, or by any Company or person with or without Local Authority consent. The promoters had to satisfy the Commissioners that all reasonable steps had been taken to consult the Local Authorities and any owners and occupiers of land and premises who might be affected, but the Local Authorities had no power of veto, nor were they given power to purchase any lines compulsorily. In some circumstances promoters might be given powers to purchase land compulsorily. Provision was made for grants and loans by the Treasury and by Local Authorities. Light railways were to enjoy preferential rating compared with tramways, to be assessed on only one quarter of their annual value, whereas tramways had to pay in full.

The Light Railways Act was intended to encourage rural development, but as there was no statutory definition of a light railway, the astute management of the B.E.T. realised that the Act could be used to construct their tramway with less trouble and expense. Other companies used the same device to build, for example, the Southend-on-Sea Light Railways and the Walthamstow Light Railway. By 1899 the Light Railway Commissioners had made it clear that any line wholly in one borough would have to come under the Tramways Act of 1870, but that they might accept a scheme extending into two or more areas. Thus a light railway in the Soke of Peterborough, passing into the City of Peterborough and into Woodston, met with the Commissioners' proviso, and, although to all intents and purposes the Peterborough system was an electric street tramway, in all the Orders it is referred to as a railway, whereas

the proposals of Graves and Addy were for tramways, under the Tramways Act, 1870.

The routes suggested for the Peterborough system were from Walton to the Market Place and along Cowgate to Great Northern Station; a branch to Dogsthorpe via Dogsthorpe Road; a line to Newark from Long Causeway; from the Market Place through Narrow Bridge Street; along London Road to the City boundary and then by way of New Road, Woodston and Ounle Road to complete the loop at the Bridge end.

It was also proposed to purchase a strip of land on the East side of Narrow Bridge Street with the object of widening the street, and two acres thirty perches of land south of the river bordering on London Road for the purpose of erecting a generating station.

On 11 January, 1900, a Public Enquiry, at which were present only about a dozen or so of the public, was held in the Town Hall, presided over by the Earl of Jersey and Colonel Boughey, two of the Light Railway Commissioners. Narrow Bridge Street proved to be an obstacle to the suggested southern part of the plan, and B.E.T., having originally proposed to purchase the eastern side of the street, were prepared to widen the road at their own expense at a cost of £20,000. The City Council, however, resolved to object to this and the laying of metals on the Water Bridge, and the Great Eastern Railway Company objected in the strongest possible terms to the construction of a crossing over their railway track. After a long hearing, the Commissioners expressed their willingness to sanction the scheme up to Narrow Bridge Street, but refused to sanction the crossing over the Great Eastern Railway. It is difficult to understand the objections of the Railway Company to the carrying of the tramway lines over the crossing as there were a number of examples in existence and the technical problems were not great.

The Peterborough and District Light Railways Order, 1900, was duly confirmed by the Board of Trade, "authorising the con-

struction of Light Railways in the County of Northampton, in the City of Peterborough and the Parishes of Walton and Peterborough Without, in the Rural District of Peterborough". Section 4 of the Order lists the six railways which the Company were permitted to construct, and reads as follows:

"Subject to the provision of this Order the Company may make form lay down and maintain the Railways hereinafter described in the lines and according to the levels and within the limits of deviation shown on the Plans and Sections with all proper rails plates works and conveniences connected therewith.

The said Railways are—

A Railway (No. 1) 1 mile 7 furlongs 2.59 chains or thereabouts in length commencing 3.19 chains or thereabouts north-west of the cross roads near Balcony House Walton passing thence along Lincoln Road and terminating in the said Lincoln Road at its junction with Dogsthorpe Road.

A Railway (No. 2) 7 furlongs 9.4 chains or thereabouts in length commencing opposite the Blue Bell Inn Dogsthorpe passing thence along Dogsthorpe Road and terminating by a junction with Railway (No. 1) at its termination.

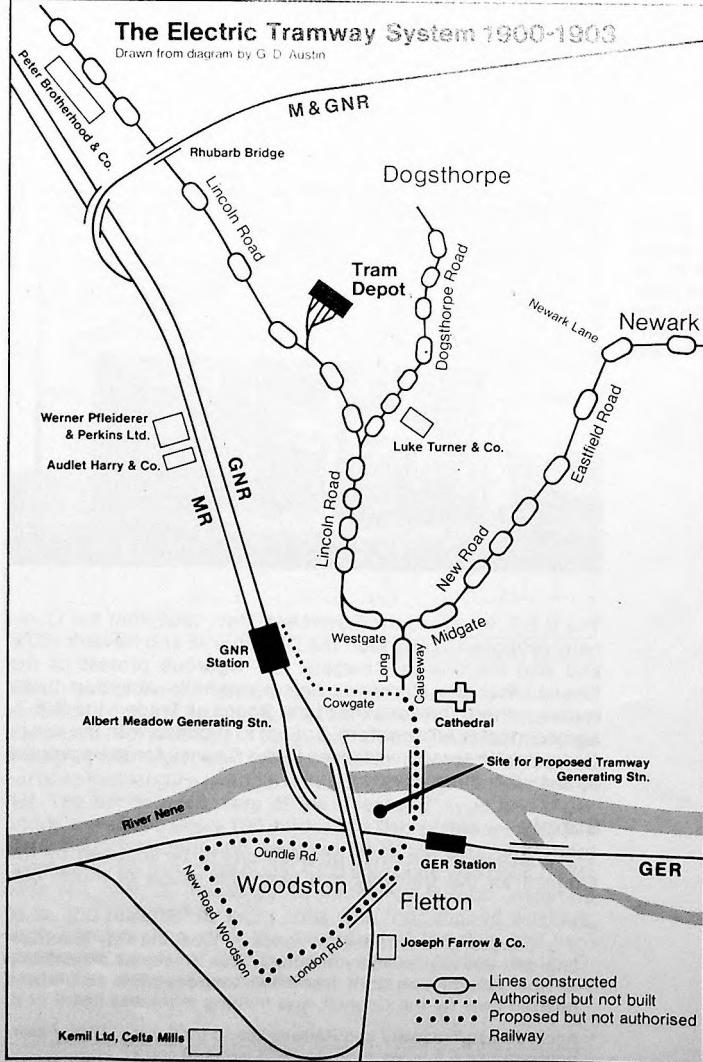
A Railway (No. 3) 5 furlongs 5.0 chains or thereabouts in length commencing by a junction with Railways (No. 1) and (No. 2) at their termination and passing thence along Lincoln Road Boroughbury Westgate and terminating in Long Causeway at a point twenty yards or thereabouts from its northern end.

A Railway (No. 4) 1 mile 5 furlongs 3.3 chains or thereabouts in length commencing opposite the Bull Inn Newark passing thence along Eastfield Road New Road Midgate and terminating in Long Causeway by a junction with Railway (No. 3) at its termination.

A Railway (No. 5) 8 chains or thereabouts in length commencing by a junction with Railways (No. 3) and (No. 4) at their termination passing thence along Long Causeway and Market

The Electric Tramway System 1900-1903

Drawn from diagram by G D Austin



Place and terminating in Market Place by a junction with Railway (No. 6).

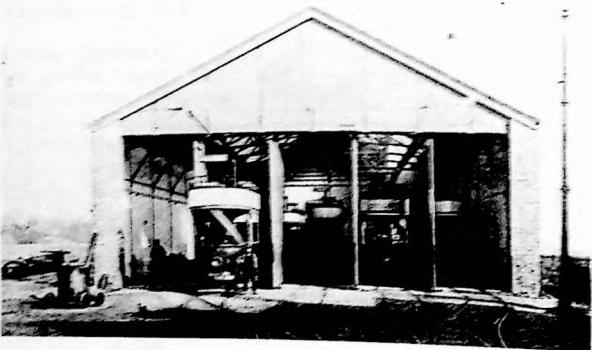
A Railway (No. 6) 1 furlong 4.64 chains or thereabouts in length commencing by a junction with Railway (No. 5) at its termination passing thence along Church Street Cowgate and terminating at a point 76 yards or thereabouts west of the junction of King Street with Cowgate."

The difficulties of the relationship of the B.E.T. with the City Council are well illustrated by the complaint made by the Council in October 1901, and, throughout 1902, that there were too many passing loops in the proposed lines, and that the tram standard opposite the Midland Bank on the Market Place was out of perpendicular. The B.E.T. Engineer visited the Council to explain that the standard was not supposed to be perpendicular, but that it was deliberately constructed leaning back in order to take the strain of the overhead wire, which at this point would be considerable as it was the terminal pole for the whole of Long Causeway. He gave a lengthy explanation regarding passing loops which he said had been mathematically worked out so that all the cars would not be trapped at one end of the system.

On 22 February, 1902, 200 tons of tram rails arrived at the Great Northern Railway goods yard, and in April Mr. Ernest Stalham, the B.E.T. Resident Engineer, came to Peterborough and took up residence in Thorpe Road. The contractors were J. G. White & Co., and their representative Mr. Pattison also took up residence in the City. There was a press conference on 26 April, at which one of the reporters asked: "There are large numbers of tramway metals stacked up in the Great Northern Railway goods yard. Could these belong to the British Electric Traction Company?" Mr. Stalham replied, "Yes, I confirm that they do indeed belong to the B.E.T." "Are these metals to be used in Peterborough?", further pressed the reporter. "Yes", answered Mr. Stalham, and the press conference continued throughout in this fashion. The final piece of information elicited was that tracklaying would start in Walton and carry on towards the Market Place.

5.

Peterborough Tram Depot, 1904. As far as is known, the only existing photograph. This car shed is still in situ as part of the National Bus Company depot, though now surrounded by other buildings. Note the railway-type point levers. Photo courtesy Mrs. H. Cole, Eastbourne.



The B.E.T. informed the Council in May, 1902, that the Company proposed to abandon the Dogsthorpe and Newark route and also the line in Cowgate. On vigorous protest of the Council that the Company had no right to abandon these routes without the consent of the Board of Trade,⁸ the B.E.T. agreed to carry on as before, but not to proceed with the line in Cowgate. No reason was given to the Council for the proposal to abandon these routes.⁹

Supply

The question of the price of electricity to be supplied by the Council for the tramway had been the cause of much dis-

⁸ It is interesting to note that in January, 1902, the City Electrical Engineer was requested by his Committee to prepare an estimate for the construction of a municipal tramway. The report was referred back by the Council, and nothing more was heard of it.

⁹ According to *Tramway and Railway World* for 9 June, 1904, Peterborough had 5.5 miles of route (7.75 miles of track).

sension since the outset, and, since it seemed that the Council were not prepared to supply the Company with electricity, the B.E.T. announced their proposal to purchase land in Aln Road and to construct their own generating station. On receipt of this information the Council changed their minds and, at their meeting of 31 May, 1902, agreed with Mr. Sellon of the B.E.T. for the supply of electricity at the following rates:

2½d per unit for the first 75,000 units, 2d per unit for the next 75,000 units, 1¾d per unit for the next 50,000 units, and 1½d per unit for all subsequent units, with a minimum charge of 120,000 units per year; these rates were subject to revision every five years during the term of agreement. Before closing the meeting the Council agreed to apply to the Local Government Board for sanction to borrow £10,000 for extra plant for tramway and other purposes, as follows:

Buildings and foundations — £2,100, two 150kW Steam Dynamos — £3,200, spare armature and set of spares — £300, two ejector condensers and piping — £500, steam piping — £350, switchboard and instruments — £600, one boiler and setting — £720, blow-off pipes and floor plates — £300, extensions to economisers — £260, coal chute and store — £150, centrifugal pump and motor — £120, contingencies — £1,550, remuneration to City Electrical Engineer for his work in preparing scheme — £100. At the following Council Meeting the £100 for the Electrical Engineer was rejected by 8 votes for and 10 against, and the £100 was added to the contingency estimate. It was also decided to purchase one 120kW and one 240kW Steam Dynamo instead of two at 150kW, to be obtained from Crompton & Co., of Chelmsford.¹⁰

¹⁰ Electricity for public use came to Peterborough in 1906 (19 December), the generating station having cost £13,068, with one engine and one generator. Land at the corner of Queen Street and Deacon's Street had originally been purchased from the Roman Catholic authorities for a generating station, but the scheme was so long getting off the ground that the project was moved to Albert Meadow by the River Nene and the site in Queen Street was utilised for the City Fire Station.

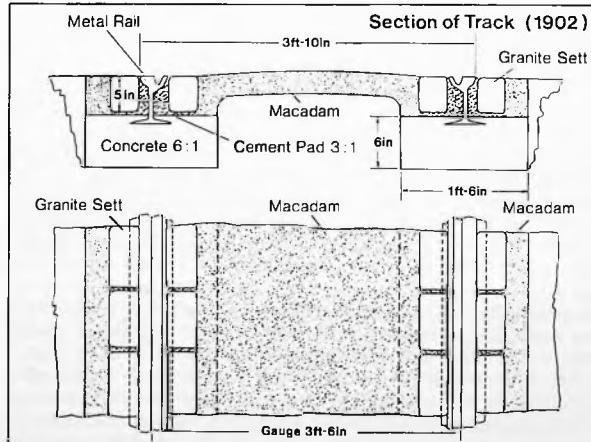
There were to be tramway feeder pillars at North Street corner near the "Swan" Inn in Midgate, and on the Market Place. One of the feeder cables was to go along Trinity Street, Cross Street and Queen Street to Westgate, but the workmen were not able to place the cable in Cross Street, where the Council had dictated, because on opening up the road a large amount of other Corporation services were found to be in the way, and the tramway cable had to go on the other side.

Payment to the Council for the electricity actually began from 1 September, 1902, the date at a press conference as that for the commencement of services, where it was also intimated that the service would be provided by single deck cars.

The Track

A Depot and Offices were constructed in Lincoln Road by a firm named Gray at a cost of £3,000 in which the tram shed had six pits connected by archways, and there were five storage roads converging into a single line junction with the Walton route in Lincoln Road, the points facing the town. The points on the depot fans were uncommon in that they were changed by railway siding type point levers, as against the more normal point iron. The standard tramway voltage of 500 was used, and the electrical side of the depot was equipped by the firm of Dick Kerr and Co. There was also a paint shop and a small workshop.

The contractors started work on the track and overhead work on the 12 May, 1902, the track, of 3 foot 6 inches gauge, being laid throughout as a single line with passing places, which were of sufficient length to take two cars. Except through the main streets of the town where the existing granite setts were re-used, and at the points and crossing which were paved throughout, only one granite sett laid longitudinally on each side of each rail was used, the remainder of the track being laid with granite metalling. Each rail was laid on a substructure of 6 to 1 Portland cement concrete, 18 inches wide by 6 inches deep, of sufficient width to support the rail and setts laid on each side. Considerable difficulty was experienced in working



From an original drawing

the surface of the old roads, which were not properly made and which by constant repair had become uneven. The rails were manufactured, probably in Belgium,¹¹ by the Societe Anonyme d'Ougree-Marihaye, and weighed 94 lb per yard, and were cut to 45 foot lengths, with tie bars spaced six to each length of rail. The bonds used were of the "Neptune" type and cross bonds were fixed every 100 yards. The fish-plates were by the same manufacturers and weighed 54 lb per pair, and were fastened by six fish-plate bolts. A flat sole plate was used under each rail joint, 20 inches by 10 inches by $\frac{5}{8}$ inch, weighing 34 lb, and fastened by eight bolts with four shaped washers, each 7 inches long. With the exception of the rails and fish-plates, the whole of the materials were supplied by J. G. White. The steepest gradient was 1 in 38 on Newark Hill, and

¹¹ The Belgian rails were £2 per ton cheaper than British rails.

the sharpest curve was 52 foot radius. The groove in the rail was not allowed by the Board of Trade to be wider than 1½ inch, but could be widened to 1¼ inches on curves less than 150 foot radius. At the passing places the points were spring loaded, guiding a car to the left-hand track; on leaving the passing place the wheel flanges would push the point blade over, and it would spring back to set the road for left-hand running as soon as the car had passed. The points branching to the Newark route, to Dogsthorpe and to the depot were altered by the motorman with his point iron, which he inserted between the point blade and the track to lever the point blade over; underneath the road was a special locking device, so that when moved by the point iron the point stayed firmly in position either left or right, and firm pressure by the motorman was needed to make the points snap over. The point blade being quite thin, was strengthened by having a wide base, which, when moved to the left or right, went under a counter-sunk portion in the stock rail. The frogs in the overhead were spring loaded and set for the main line, that is the Walton route, the pull-off handle being in each case on a standard on the near side of the road. While the motorman was using his point iron, the conductor would hold down the pull-off handle for the overhead; the motorman would then remount the car and proceed over the points, and as soon as the trolley wheel was clear of the overhead frog the conductor would release the pull-off handle, sprint after the tram and swing onto the back platform. In the trailing direction, that is, leaving the point blades behind, these points were, if set wrongly, moved over by the tramcar wheels and trolley wheel, so therefore a driver leaving the Market Place for Walton had to make sure, that a tram from Newark had not set the points wrongly, otherwise his tram would try to go to Newark and the trolley wheel to Walton. There were in fact several rewirings at Barratt's Corner.

It had been the original intention of the Company to lay double track from Boroughbury right to the Market Place, with a crossover at the Market Place, and with span wires in Long Causeway. The market stalls had been moved back with this

plan in mind, but the City Council insisted on centre poles in Long Causeway, the omission of the crossover, and single track around Barrett's Corner, although this singling made it extremely awkward for the motormen as they were unable to see if another car was coming along Westgate. The Council maintained that double track would come too near the curb, and even so the single track came so close that the sides of the car overhung the pavement at this point and there was a notice attached to the wall which said, "Beware of Trams Narrowing the Margin".

On 4 October, 1902, the Council requested the contractors to suspend work on the tramway in Long Causeway for one week because of traffic congestion caused by Bridge Fair. This the contractors refused to do, whereupon the Council's Surveyor seized the contractors' tar boilers and other equipment and had them locked up in the Council Depot yard. The contractors quickly obtained a fresh supply of tar boilers, etc., set their men back to work and hired a squad of hefty Irish labourers to stand guard. Another dispute arose on 15 December, 1902, this time between the Peterborough Rural District Council and the Company, over the section of the route between Broadway junction and Newark. The Council wanted the track to be at the side of the highway, on the Council's right of way, in fact similar to the Wisbech and Upwell Tramway, whereas the Company were determined to have the track in the centre of the road. Deadlock followed, whereupon the Company wrote to the Board of Trade requesting permission to abandon that part of the scheme. The District Council, who had put forward a very sensible idea, but fearing they would lose their tramway altogether, withdrew their opposition and almost begged the Company to proceed. In the event, the Board of Trade overruled their objection and permitted the track to be laid in the centre of the highway.

Hardly a meeting of the City Council passed between the start of construction and the opening of the tramway at which there were not complaints about the project: more than the permitted lengths of road were being opened (the legal maximum

being 100 feet at any one time); heaps of debris were lying all over the place; "Huge puddles are collecting, the water freezing and causing horses to slip over"; "The workers are rough and uncouth, and it is shameful that young ladies of genteel upbringing cannot go out for a walk without having to avert their gaze, and block up their ears".

Overhead Work

The overhead construction, by R. W. Blackwell & Co., was of standard B.E.T. type, with bowstring suspension for bracket arms. The steel poles were 31 feet in height and in three lengths. No rosettes¹² were used. The trolley wire¹³ was of hard drawn copper of .324 in diameter (or single O), the guard wire being of galvanised mild steel, 7/16 in gauge, earthed to Board of Trade requirements. The section boxes had fuse switches and Garton lightning arrestors. The cables were by W. T. Henley's Telegraph Works Co., were paper insulated and lead covered, and laid in case iron pipes on the drawn-in system. The overhead was of round section copper wire soldered into the suspension ears. To ease the strain and to prevent failure of the soldered joint, half-ears were fitted at either side with strainer wires to the insulator cap. The soldering of the wire to the suspension ears was a very tedious job, and demanded a very skilled craftsman. From Walton to

Boroughbury span wire suspension was employed; from Boroughbury to Westgate bracket arms on standards were sited on the west side of the road; in Westgate span wires were used as far as Park Road corner, and from there to Barrett's Corner there were standards and bracket arms on the north side of Westgate. These latter were very long indeed, probably the maximum permitted length of 16 feet. Long Causeway had one set of span wires, then all centre standards with bracket arms ending with a final span wire with the conductor wire going straight towards the Market Place to a standard line with the Midland Bank, being joined to the galvanised strainer wire by means of insulators.

The regulations were that centre standards could not be used except by special permission of the Board of Trade, and there had to be at least 15 in minimum between the side of a car and any standing object, or between two cars. The maximum distance allowed between the standards on the straight was 120 feet, but it was the usual practice for tramways to adopt a standard spacing of 100 feet, although it was of course necessary to put standards much closer on curves. Trolley wire had to be not less than 20 feet above the track level, although a lower level was permitted under bridges, but under the bridges the wire could not come below 6 feet 6 in from the roof of the car, and where there was less clearance special permission had to be obtained. There were situations like this where the passengers on the top deck had to remain seated, with large warning notices fixed on each side of the bridge. It was the practice of the B.E.T. when offering their prospectus to Local Authorities to point out the advantages of the fact that where centre poles were used with bracket arms the Authority could have electric lights on these poles and that the electricity could go along the same route as that for the tramway. The Peterborough City Council took advantage of this offer, and the three centre poles in Long Causeway were each surmounted by a huge arc lamp. Some standards supporting span wires were also so used, those near Lloyds Bank certainly and probably those on the corner of North Street and Westgate.

¹² Rosettes: Sometimes where it was difficult to locate a steel pole, rosettes were fixed to the walls of substantial buildings, and the suspension wires for the overhead affixed thereto.

¹³ Trolley wire: So called because in the early days of electric tramways a small trolley did actually run along the wire, towed by a cable from the tram. The trolleys frequently came off, and, although the invention of the trolley pole with swivel wheel solved the problem, the name "trolley" stayed. Much of our tramway terminology came from the United States of America with the import of American equipment in the early years of tramways. In that country electric tramways were earlier on the scene than in Britain, due in no small measure to the fact that American promoters were not subject to fossilising laws as were their British counterparts.

6.

Peterborough water tram, c.1905. As far as is known, the only existing photograph. Photo courtesy Mr. J. H. Price.



Rolling Stock

(For an explanation of technical terms, see annotated drawing on pages 28-29.)

Numbers 1-12. The first twelve passenger vehicles were double deck, open top cars, built by the Brush Electrical and Engineering Co., Falcon Works, Loughborough (formerly the Falcon Tramcar Co.). They had three-window bodies, canopied open platforms and reversed spiral 90-degree stairs. The overall length of the cars was 27 feet, the body being 16 feet long and 6 feet 3 in wide with a maximum width of 6 feet 6 in. The interior height was 6 feet 6 in, and from rail level to the top of the trolley plank was 9 feet 6 in. There was seating for twenty-two passengers inside, on long longitudinal slatted seats facing inwards, and twenty-six outside (that is, upstairs) on transverse wooden garden-type seats which were reversible, arranged two and one up to the trolley standard

where they changed over to one and two. A single seat was situated on each canopy behind the row of double seats.

The cars were mounted on Brush Type A 4-wheel trucks of 6 foot wheelbase with three-quarter elliptical springs, powered by two 17 hp.¹⁴ Brush 800B motors with Brush B2 type controllers. Handbrakes and rheostatic brakes were provided, the latter being on the opposite side of the controller.

Electric bell signals to the motorman were given by means of push buttons on the lower deck, and the conductor carried a "Thunderer" whistle, of the type used by railway guards, for use when on the upper deck. After the introduction of ticket racks, however, one or two hefty whacks on the decency board was the usual signal for the driver to start. Indicators of the roller blind type were mounted on the upper deck at each end of the car. The saloon windows were fitted with damask curtains. The headlamps were mounted centrally on the dash, and immediately above them was the bayonet fitting for the trolley retriever. The trolley masts were B.T.H. Type B1, and the trolley poles could only be turned one way, there being an arrow on the canopy bend above the driver showing the conductor which direction to turn the pole. The Company Byelaws¹⁵ refer to cushions, but it is not known if any cars had them. Some systems in those early days did start off with cushions, but the flea-ridden minority probably soon caused them to be removed. The interior panelling was almost certainly maple.

Numbers 14-15 (no Peterborough car ever bore the number 13, whether because of superstition as at Exeter and Plymouth is uncertain. The water tram may have been allocated the fateful number). Supplied in 1904, these two cars had been

¹⁴ *Tramway and Railway World* for 9 June, 1904 stated that the motors of the three-window cars were 20 hp, but local tramway employees have always informed me that they were 12 hp.

¹⁵ See Appendix 1.

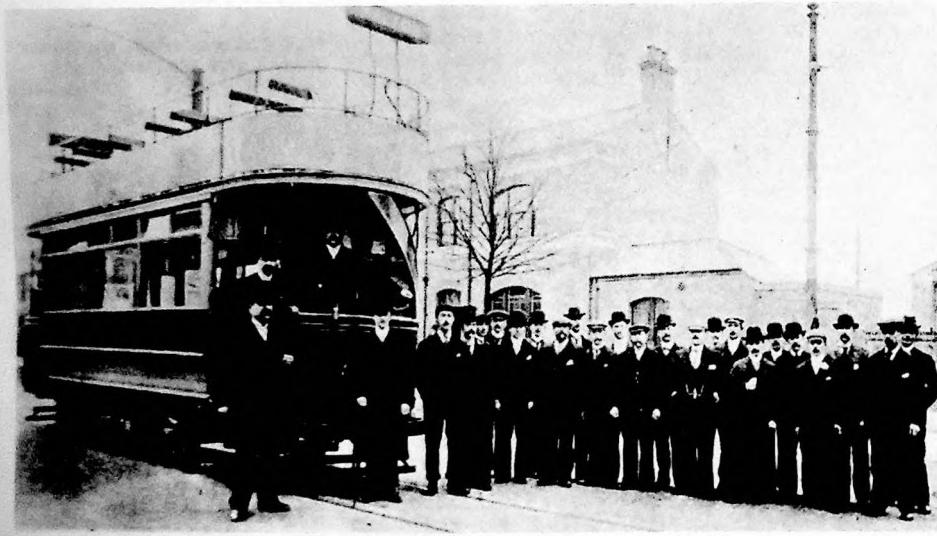
diverted from the Worcester Electric Traction Co. order at workshop stage, and were delivered direct to Peterborough still in the holly green and cream livery of the Worcester company, and remained so until due for a repaint, when they received Peterborough's lake-brown and cream. They were double deck open top cars with found-window bodies and direct 180 degree stairs; they had slightly higher rails to the upper deck than the three-window cars, and seated two more passengers (twenty-two inside on slatted seats and twenty-eight on the upper deck).

The trucks were again Brush Type A with 6 foot wheelbase fitted with two Dick Kerr 25 hp motors and two Dick Kerr 25B controllers; hand and rheostatic brakes were again provided. The cars of this type supplied to Worcester had Spencer track brakes, but as there were no appreciable hills in Peterborough they were not fitted to the Peterborough cars. The trolley masts were of the same type as in the earlier cars. The two later cars cost £720 each, and arrived in time for the Agricultural Show at that time still being held at Millfield. It is not known whether the Peterborough company originally ordered more of these Worcester cars, for certainly one, if not more, of the cars which arrived at Worcester had Peterborough destination blinds, and there is in existence a photograph showing a car at the Barbourne terminus at Worcester with Peterborough blinds and the Worcester terminus indication printed on paper and pasted over the glass of the indicator box.

The driver's platform contained the controller, hand brake, life-guard, gong, and sand-operating pedals; the sand boxes were situated under the seats in the lower saloon, and in fact were so neatly concealed when the access lid was shut that I doubt if many passengers knew of their existence. The tram-car motors were series-wound, and at the time of starting they were connected in series, but as the car picked up speed and the controller handle moved to the next notch the winding would change to parallel, graduation being obtained by variations of the resistances generally known as rheostats. To enable the driver or conductor to cut off current in an

emergency, a switch was available on each platform mounted on the ceiling of the canopy. One of the switches was also an automatic circuit breaker, which operated with an alarming flash and a bang to cut the current if the driver overloaded the motors by notching up too quickly, the loud bang being deliberately incorporated into the design as an audible warning. I was on one occasion on a tram when this did happen. The conductor merely reached up quite nonchalantly and switched on again. If the blow-out was more severe than usual it could also blow the fuses at the generating station, and there were in the Electricity Committee minutes complaints that just this was happening far too often. The case was probably lack of experience, as after the first few weeks of operation, there was no further mention of such occurrences. The driver was often referred to as the "Motorman", because in the early days when the primitive squirrel cage motors were used, it was the duty of the driver to pay constant attention to them, with particular emphasis on the brushes.

The hand brake, which was used for normal service stops, was operated by the driver's right hand; it wound up a chain by means of a ratchet wheel, the chain being connected to an ingenious system of levers which ensured that all the brake shoes were operated with equal pressure; the driver could hold the brakes at the exact pressure he required by operating the ratchet by means of his foot. If a pedestrian fell in front of the car, his body would knock back the hanging gate, and this in turn would release the life guard which would drop to the track level scooping up the unfortunate person it was hoped without harm. Although I never witnessed a human being being picked up in this fashion, I certainly saw a number of dogs scooped up, to regain their feet and run off. The life-guard was then re-set by the driver using the foot pedal provided for this purpose. Government regulations required an emergency brake, and the electric gear provided it in a simple way by making use of the fact that reversal of the field magnet windings turn a motor into a dynamo which, in generating current, requires an input of energy. This input was provided when the tram coasted, the current so generated being fed



7.

Ready for the Board of Trade Inspection, 1903. Major Druitt is the military-looking gentleman standing in front of the headlight, with Mr. Dickenson at the controls. Others in the party include Mr. Trotter, Mr. Porter and Mr. Kerrigan. Photo courtesy Peterborough Evening Telegraph.

back into rheostats, the resistance of which speedily brought the car to a standstill. The braking position on the controller was reached by the turning of the handle quickly anti-clockwise past the "Off" position and on to the braking notches.

When changing direction at a terminus the controller handle was detached and taken to the controller at the opposite end of the car, where it was remounted. On the controller there was also a reversing key, and as a safety measure the tram could not be moved unless this key was in either the forward or reverse position; the key could only be inserted or removed in the neutral position, and could not be moved at all if the main handle were away from its position, that is at the other end of the car.

A standard Brush water tram was also supplied, of the cylindrical tank type, mounted on Brush Type A trucks. The purpose of this car was to travel all the routes in dry and dusty weather spraying water on to the track to clear out the dust, so as to ensure good electrical contact. The car could also be used as a snow-plough if necessary, it being possible to fit "V"-shaped boards to the pilot board.

Also provided was a horse-drawn tower wagon, for maintenance work, etc., on the overhead. A former tramway-employed colleague informs me it was the policy of the Company to borrow a horse and driver from the Peterborough Co-operative Society when the tower wagon was needed. There was also a tar-boiler mounted on small, railway-type wheels to the same gauge as the tramway, for ease of movement, and a manual roller.

The tramway livery was: window frames, rocker panels, and decency boards cream, and the waist panel, stairs and dashes lake-brown,¹⁶ lined out in gold. The Magnet and Wheel device of the B.E.T. parent company was displayed in the centre of the waist panel. There being no room above the headlight for a number because the holder for the trolley retriever was situated there, the number appeared twice on each dash on either side of the headlight. Cars 14 and 15 were holly green and cream, with large lining out in gold, these two cars were repainted in the lake brown when due for a repaint. The tower wagon was painted green.

At some time between 1914 and 1917, the trams were repainted in holly green livery. This may have been a wartime economy repaint as green paints are well known to be better wearing than reds, and since holly green was a standard B.E.T. livery, there were very likely large stocks. During the time of the repaint the trolley retrievers were removed and the car

¹⁶ Incorrectly described by a newspaper reporter as "Midland Red". Trams were usually given nineteen coats of paint and varnish, and were always lined out in gold or other colours.

numbers placed in the more orthodox position above the headlamp, the destination boxes being lowered at the same time.

In the Autumn of 1902, representatives of the local press were invited to view the first car, which had arrived and had been assembled.¹⁷ This was, of course, a double deck open top car, not single deck as had been anticipated, and was Number 12 (it was obviously easiest to bring the cars out off the assembly line in reverse order, and this was the last one). In its early years the B.E.T. favoured a frequent service of small single deck cars, but within a few years increased patronage of the tramways warranted larger cars, and for some time controversy raged between the Company and its Chief Engineer as to the comparative merits and earning of single deck cars at frequent intervals as against those of double deckers employing the same staff for double the carrying capacity, but at a less convenient headway as far as the public were concerned. At the time the Peterborough system opened the supporters of the double decker had gained the day. The "Peterborough Standard" reporter described the cars as being "Midland Red" livery, but Mr. Walter Gratwicke¹⁸ described them as "Lake-Brown", and they were in fact painted in a very attractive brown colour which certainly had scarlet lake mixed with it.

There were no exceptionally low bridges in the system to necessitate the use of single deck cars, the lowest being "Rhubarb Bridge" which divided Lincoln Road, Peterborough, and Lincoln Road, Walton. This bridge had at first carried the Peterborough, Wisbech and Sutton Bridge Railway which in 1883 became part of the Midland and Eastern Railway, and later the Midland and Great Northern Railway. The earth

imported by the contractors in building the bridge contained a large proportion of rhubarb root which later flourished in profusion on the embankment. The site is now the junction to a motorway which follows the route of the old railway, and is still known as "Rhubarb Bridge Roundabout".

By 29 November, 1902, eleven more cars had arrived and had been assembled. Each had cost £600, and the estimated cost of the whole scheme was put at £60,000. A standard "Brush" Water Tram was also delivered.

In 1903 three cars exactly the same as those delivered to Peterborough were delivered to the South Staffordshire Tramway Company who had become short of cars owing to the opening of a new route to West Bromwich. These cars became Numbers 28-30 in that Company's fleet. In the complete absence of any Company records it is difficult to surmise what action was taken as no two orders for tramcars were ever the same in those days before mass production. We shall never know if these cars were diverted from the Peterborough order, but I feel that Mr. Webb¹⁹ of Birmingham is correct when he says that these cars were ordered by the South Staffs. Co., in November, 1902, and that the Brush Company carried on and constructed them using the same jigs, etc., as had just been used for the completed Peterborough order.

Training of drivers took place between Walton and Cobden Street, instruction being given by Mr. Porter.²⁰ A "Peterborough Standard" reporter, describing a trip with Mr. Porter on one of the cars, speaks of it as "an exhilarating spin", in the course of which he learned that each car had three brakes.²¹

¹⁷ See Acknowledgements and List of Sources.

²⁰ He came from London, from either the Metropolitan Tramways Co., or the South Metropolitan Tramways Co., (both B.E.T.).

²¹ There were of course only two brakes, the hand brake and the rheostatic brake, which were duplicated at each end of the car. The reporter must have become confused with technicalities.

¹⁸ See Acknowledgements.

8.

First day of trams, 1903. Note the absence of advertisements on the cars, and that uniforms had not yet been issued. Photo courtesy Peterborough Museum and Art Gallery.



the one in normal use was the hand ratchet which, said Mr. Porter, would pull the car up in twelve feet, while the other two were on the controller, and would pull the car up in three feet. Asked about snow which was falling at the time, Mr. Porter said that if it ever became bad a snow-plough would be used. The distance from the Market Place to Walton was 2½ miles, and the total mileage 5¼.

At the meeting of the City of Peterborough Watch Committee immediately prior to the opening of the Tramway, a member enquired of the Chairman the position regarding the licensing of the tramcars and their drivers. The Chairman said that he would ask the Town Clerk, but the Watch Committee minutes contain no further mention of the matter. However, I am informed by Mr. C. J. Ludlow of Bourne, who was a conductor with the Company, that in fact the trams were not licensed, nor the drivers and conductors, possibly because the Watch Committee felt that there was no necessity as the trams ran on their own right of way. Drivers were passed out after a test drive with a Company examiner, and a policeman riding on the platform with him. The Board of Trade regulations stated that a municipality could licence trams and staff if they wished, and indeed some did, but this was not obligatory.

The Opening

The long delayed Board of Trade inspection took place on Friday, 23 January, 1903. Two cars left the depot for the Market Place to pick up the official parties. The first car left with a fearful jerk, and all were thrown off their feet; the car was then reversed and a fresh start made, this time quite smoothly. Here is the report of the first day of trams in Peterborough from the "Peterborough Advertiser" of 31 January 1903:

"STARTING ELECTRIC TRAMS AT
PETERBOROUGH.
CROWDS TAKING THEIR PLEASURES
SERIOUSLY.

Two Inspectors of the Board of Trade, Major Druitt and Mr. Trotter, the former for the Permanent Way and the latter for the Electrical Department, examined the Walton and Dogsthorpe routes of the Peterborough Tramway System on Friday.

Two of the trim, prim and compact cars were in waiting on the Market Place when the Inspectors arrived at noon, and surrounding them was a crowd of some hundreds of people. The Inspectors, with Tramway and City officials, boarded the first, and several members of the Council, accompanied by pressmen, entered the second.

Among those who rode were: Aldermen Barrett, Clifton, Redhead and Tebbutt. Messrs. J. G. Barford, J. Batten, T. C. Lamplugh, C. Foote, G. H. Dean (Chairman of the Peterborough District Council), J. W. Buckle (Clerk to the Council), J. Adnitt (Chairman of the Peterborough Parish Council), W. Mellows (Town Clerk), J. W. Walshaw (City Surveyor), J. C. Gill (City Engineer) and J. Parr (Werrington). The Tramway representatives present were Mr. Hawley (Permanent Way), Mr. Lawson (Electrical), Mr. Paris (Director of the Peterborough Electric traction Company), Mr. Kerrigan (manager of the Peterborough Company), Mr. Godward (Secretary of the Peterborough Company), Mr. Black (Resident Electrical Engineer), Mr. Stalham (Resident Permanent Way Engineer), Mr. Patterson (Engineer to the contractors for the permanent way), Mr. Shackleton (Electrical Engineer to the contractors), Mr. M. Kelly (Permanent Way Inspector), Mr. E. W. Dickenson (Rolling Stock Engineer), Mr. T. King (Foreman) etc.

Lively interest was shown in the proceedings all along the routes by people and horses, the latter, having become more accustomed, by the trials which have been taking place, to the horseless monster, viewing it with more curiosity than fear, and passing on in blissful ignorance of the fact that his bread was being snatched out of his mouth!

The inspectors critically examined the M. & G.N.R. bridge

which was six feet, nine inches above the top of the car. It looks much less—but they passed it.

Having run to the terminus at Walton the cars retraced their wheels and ran on to the Dogsthorpe line. The suburban village, which is being roused, electrified, and generally shaken up, before being enlarged as a consequence of its connection with the world—Peterborough—was reached in ten minutes.

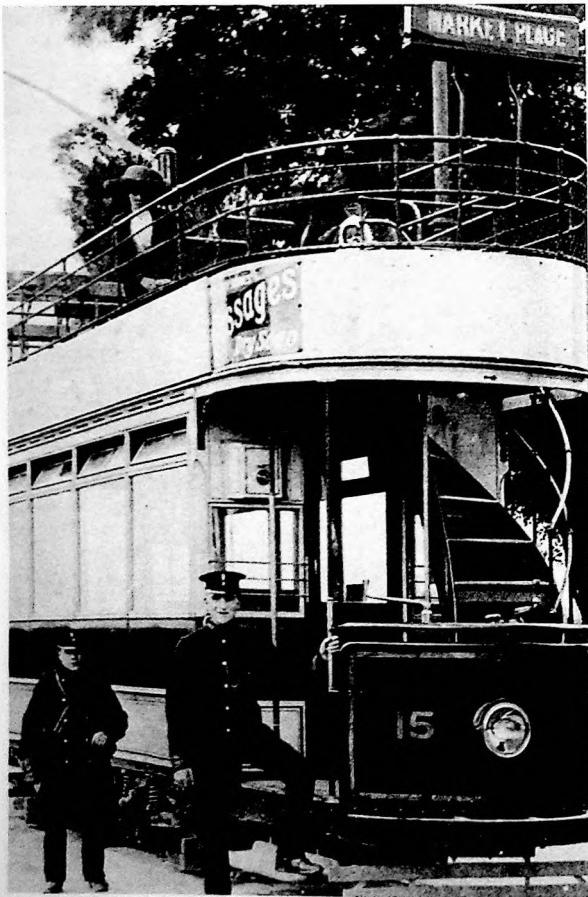
'Before long', said the genial manager Mr. Kerrigan, 'these trees will be replaced by chimneys, the place will grow as other towns have grown after the introduction of the trams, and people will be hurrying into the City. We want the people to remember that they are not getting into or out of the old 'buses, but electric trams. Smart's the word—no dawdling now. We want the passengers, too, to have their coppers ready and not tender silver to the conductors. I am giving the conductors a lecture in the morning, teaching them how to move about a crowded car without tumbling into the laps of ladies.'

The Market Place was again reached in a little over an hour, and the Inspectors intimated that, although their official report would not be received for some days, there would be no objection in the meantime to the trams being run for the public. They sanctioned the following speeds: in Long Causeway six miles per hour, at the corner of Westgate four miles per hour, in Westgate six miles per hour, at the corner of Boroughbury four miles per hour, in Lincoln Road twelve miles per hour, at Walton corner near the terminus four miles per hour, and in Dogsthorpe Road twelve miles per hour. The cars run from 8 a.m. till 11 p.m. and there is a Sunday service".

In the Board of Trade's supervisory jurisdiction over tramways and light railways, the actual work of supervision fell to the Board's Inspecting Officers who were officers of the Royal Engineers. Inspection by one of these officers was a necessary preliminary to the opening of any new tramway or light railway. Having traversed and inspected the whole of the

9.

Four-window car, still in the Worcester livery, at Newark Lane passing place, 1904. The conductor is carrying the container for roll-type tickets. Photo courtesy Mrs. H. Cole, Eastbourne.



line and its equipment, the Inspector would prescribe speed limits, compulsory stopping places and such other operational regulations as he might think desirable. As soon as everything was found to be satisfactory, the officer would then give his approval, and the new tramway could be opened forthwith. It was quite a normal thing for a tramway to be opened the same day immediately after inspection. At any time subsequently the operator could apply for a variation of any of these regulations, when a fresh inspection of the line would be held for the purpose. In this way, speed limits were adjusted from time to time, and compulsory stopping places changed, and so on.

Quite often a Company or Local Authority who had a tramway about to receive the Board of Trade inspection would entertain the Inspectors to a lavish dinner just prior to the test. Although no such dinner was given at Peterborough, the "Peterborough Advertiser" reported that Messrs. G. F. Rippon & Co., of Queen Street hospitably entertained to dinner at the Grand Hotel on Saturday, 24 January, 1903, a party of gentlemen connected with the electric tramway scheme at Peterborough and a number of personal friends. Complimentary speeches were made, and the fact that the trams were running on Saturday for the first time lent additional interest to the occasion, reassuring references being made to the success of the inauguration. Mr. Rippon was cordially eulogised for the business-like and expeditious manner in which he had fulfilled his part in supplying gravel, cement and concrete for the undertaking. Song and speech enlivened a very pleasant evening, the host being warmly thanked for entertainment, kindness and liberality.

Referring to events in the running for the public, "The Peterborough Citizen" says:

"What a rush there was for the electric trams as soon as they commenced to take passengers. The first car laden with the public left the Market Place promptly at noon on Saturday, and was launched by a big crowd who remained behind for the simple reason that there was not room for them on the crowded

car. By three o'clock in the afternoon that car had carried 600 passengers — 200 an hour! Others followed in quick succession and all alike were packed above and below. A few of the passengers were on business bent, and many were going home, but the majority looked upon the cars as they look upon the switchback in the fair, as a new form of pleasure with which was mingled a good deal of curiosity to know what the electric propulsion was like.

In the evening the cars were in still greater demand. They were run with frequency, and on both outward and return journeys people flocked to them. Mr. Kerrigan and Mr. Porter, alert and business-like, appearing themselves to be imbued with electric power, were here, there and everywhere directing passengers to the right end of the cars, instructing drivers and conductors, and in short, the life and soul of the business, but, busy as they were, their courtesy never forsook them. The drivers and conductors were severely tried on their first day, but amid the rush they never lost their heads, and did their work 'as to the manner born'.

The running did not pass without humorous incidents. An old lady from the country was so lost in admiration of the beautiful cars that in her absentmindedness she let her purse drop on to the ground instead of into her pocket. Fortunately for her, it was afterwards picked up by Mrs. Barlow, wife of the Dean of Peterborough, and handed to the Police, and when the old lady came wailing to the Police Station, the lost property was restored. Another member of the fair sex engaged in a similar manner, also let her purse go in the same fashion, and this was picked up by an honest boy and handed to the nearest policeman. A minute afterwards the girl went to the same constable and told of her loss, and to her great joy, the man in blue was in possession of the purse, which contained a good sum of money. The most exciting incident that transpired, however, was late in the afternoon. A country labourer on the Market Hill with wonder and awe watched a car dash round Westgate Corner into Long Causeway. He at once came to the conclusion that one of the Great Northern Railway trains had



10.
Car No. 12 rounding Lincoln Road corner into Westgate, 1904.
Photo courtesy Peterborough Public Library.

broken loose, and such was his fright, he went into a fit straight away. Great consternation prevailed among the populace at the untoward incident, and it took seven or eight men to hold the terrified countryman. These are just one or two authenticated cases of the effect of the cars on the public; doubtless, there were many more which have not come to our notice.

One or two little mishaps occurred, but nothing of a serious character. On Sunday night the rod which runs from the car to the overhead wire became displaced on a car near Walton, and whilst the conductor was attending to it his leather bag tilted on the rail of the car, and all the money rolled out on to the road. The passengers and others lent prompt assistance in collecting it for him, but whether he got it all no one could tell, for there was an inch or two of soft mud on the road.

Another little incident was that a domestic cat was tripping lightly across Lincoln Road on Saturday night, when, hearing the noise of the approaching car and the blaze of the electric light, pussy crouched down. Unfortunately she selected a spot immediately in front of the approaching car for this. The driver saw pussy, and humanely stopped the car, but not before it had apparently run over her. The driver got down to look for the injured animal, and found pussy had been caught in the 'cow cage' in front and was all right, but resented efforts to dislodge her in a most profane manner.

There have been many guesses at the cost of the construction of the system, but naturally the officials will give no inkling of the figures. It is said, however, on good authority, that the expenses have been £6,000 per mile, a total of about £48,000. To this must be added some £7,200 for the dozen cars, and the many incidental expenses before any idea of the enormous outlay can be formed.

On Sunday it was found necessary to maintain a frequent service and again every car was packed. Many churchgoers — and especially ladies — took advantage of them, and the

consequence was increased attendance at most places of worship in the City.

At the Electricity Station in Albert Place everything is going capitally, and not the slightest strain or difficulty are being experienced in meeting the demand.

There is as nearly as possible, a ten minutes' service on the Walton line, on which five cars run. On the Dogsthorpe route there will be a fifteen minutes' service, and on the Newark line the cars will be run every twenty minutes. There will be three cars on the former, and two on the latter route.

The fares are: On the Walton line; Market Place to the Depot at Millfield, 1d; Depot to Walton, 1d-2d all the way. On the Dogsthorpe line; Market Place to Dogsthorpe Road Junction, 1d; Junction to Dogsthorpe, 1d-2d all the way."

Management and Operations

Just prior to the opening management was passed over to the newly-formed Peterborough Electric Traction Company Limited. Incorporated 5 August, 1902, this, yet another B.E.T. subsidiary²², had as its first Directors, Lord Vaux of Harrowden, E. Garcke²³, W. J. Greer and E. A. Paris, with C. H. Godward as Company Secretary. Among the objects of the Company as laid out in the Memorandum and Articles of Association is that of carrying on the business of hotel keepers and restaurant keepers and the proprietors and publishers of newspapers and journals! The Prospectus, dated 15 April, 1903, gives the authorised share capital as £60,000, and the Directors as W. J. Greer (Chairman), Lord Vaux (who was also Chairman of The Brush Electrical Engineering Company) and E. A. Paris (Managing Director). Capital expenditure was £59,500, made up of £52,110/2/2d. as the cost of construction of the

²² For details of the B.E.T. empire, see Appendix 3.

²³ A B.E.T. executive would normally sit on the board of a subsidiary company.

permanent way, electrical equipment, provision of cars and car sheds, etc., £5,790 payable to the B.E.T. under agreement as remuneration for the advance of all moneys for carrying out the work of construction, equipment, etc., and £1,599/17/10d. payable to the B.E.T. for the transfer of the Peterborough and District Light Railways Order, 1900. It was estimated that when the lines were in full working order, receipts would reach £9,000 per annum, and net profits £4,500, of which £2,400 would remain for dividends on the Ordinary Shares and for depreciation.

The Return of Allotment of Shares, 25 March 1903, shows that of 4,000 £5 Ordinary Shares issued, 7 went to the original Subscribers and the remainder to the B.E.T. A similar document of the following month shows that of the 4,000 Preference Shares, also at £5, issued, the B.E.T. took 3547 and of the 42 other allottees, 30 were Peterborough residents. The four male members of the Woolgar family of the "Fitters Arms", Millfield, bought one each, and H. H. Dixon of Huntley Grove, tram-conductor, two. £20,000 Debenture Stock was created on 26 June, 1903, and apart from the purchase by the B.E.T. in 1907 of a further 400 Preference Shares, the issued share capital of the Company remained the same until a reorganisation in 1928. Lord Vaux of Harrowden remained a Director until 1930. Mrs. Maile²⁴ informed me that each year Lord Vaux and Mr. E. R. Soames (who became a Director in 1919) attended the Company's annual dinner at the "Angel" Hotel; she remarked on the high esteem in which Lord Vaux was held by the local employees.

Over 80 unemployed applied for jobs on the tramway. Of these 30 were selected, the tallest being trained for driving duties and the others as conductors. The motormen's wages were 5d. an hour for a 10-hour duty 6 days a week, making a weekly wage of



11.

Mishap at Barrett's Corner, 1904. The cable from the pull-off handle to the overhead point frog has broken, and twirled round the point. The Newark car has passed, either by coasting by, or reversing his trolley pole. The conductor is re-engaging the trolley wheel on the overhead wire. Photo courtesy Peterborough Museum and Art Gallery.



12.

Boarding for the Agricultural Show at Millfield, 1905. Note the damask curtains still in use. Photo courtesy Peterborough Museum and Art Gallery.

²⁴ A former tramway employee, see Acknowledgements.

Annotated drawings of an Electric Tram

G. D. Austin, 1974

Belt rail

This was to prevent the rims of the wheels of horse-drawn vehicles damaging the car bodywork.

Bulkhead

This partition divided the passenger compartment from the driver's platform.

Canopy bend

Made from best ash, and steam-bent into shape.

Controller

Although I have been unable to find any diagrams of controllers used on Peterborough trams, I am certain they had seven notches, with 4 and 7 being the best positions, that is, parallel and not overheating the resistances. To apply the rheostatic brake the handle would be wound back past the start position onto the braking notches.

Dash

The purpose would seem to be to protect the driver if the vehicle was dashed against another object. The term was also applied to horse-drawn vehicles, the purposes being to deflect mud and rain from the driver's legs.

Decency boards

As it was possible, despite the long dresses worn at the time, for young men on the pavement to see through the steel protective netting, the ankles of ladies on the upper deck, boards were fitted which to this day are known as decency boards.

Garton lightning arrestors

A very great contribution to safety, manufactured by the Garton Daniels Co., Keokuk, U.S.A., these were fitted to the feeder pillars and on the cars, enabling lightning to go straight to earth, bypassing the traction cable to the tram.

Lifeguard

Required by law. Any object (or person) caught by the hanging gate at the front of the tram would cause the gate to move back and trip the mechanism, at once dropping the lifeguard to track level, and scooping up the victim. The driver was able to reset the lifeguard with a foot pedal.

Pilot board

This was a protection for the tram undergear and where, as was the case at Peterborough, the Company did not possess a snow-broom car, a snowplough was fitted to the pilot board of the water tram.

Brush Type A, single truck

These trucks were manufactured by the Brush Engineering Company of Loughborough, and were an almost exact copy of the American Brill 21E Truck.

Reverse spiral stairs

Although fairly safe for the passenger boarding the upper deck since, if he should slip, the direction of the tram would ensure he fell onto the stairs, they had the disadvantage of obscuring the driver's view. After about 1911 all trams had to have direct stairs, but the Board of Trade allowed trams already built with reverse spiral stairs to retain them.

Rocker panel

Curved inwards to be clear of the hubs of the wheels of horse-drawn vehicles.

Safety line

After a disengagement the trolley wheel would, if caught in the overhead, pull out the end of the trolley pole. The safety line prevented the trolley wheel from falling to the ground and so causing further damage.

Swivel head trolley wheel

By the use of a swivel head it was possible sometimes to locate the overhead wire off centre of the track, particularly at low bridges, and thus out of reach of passengers on the upper deck. The Trolley wheel was also placed beyond the end of the car so that in the event of an accident, it would fall clear of the passengers.

Trolley mast

This was securely fixed to the car roof and has inside a system of spiral springs producing an upward pressure of the trolley wheel on to the overhead wire of about 25 lb per sq inch.

Trolley pole

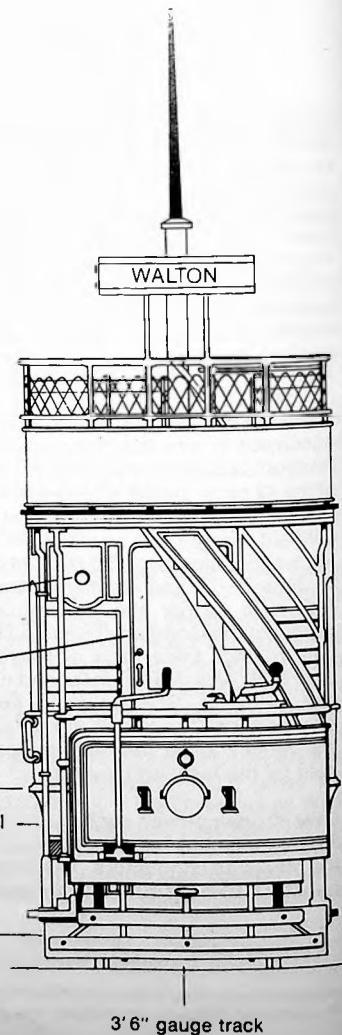
The main traction cable went down the centre of this pole which, on open top cars, had to be insulated, and wound for its entire length with heavy black insulation tape.

Trolley retriever

A reel on to which the trolley rope was mounted by spring pressure, under normal circumstances light enough to allow the rope to go up and down with small undulations in the overhead wire, at the same time preventing undue slack which would be dangerous to other road users. If the trolley wheel came off the wire, the sudden rise of the trolley pole would activate a centrifugal clutch and stop the pole going any higher. The reel was mounted above the headlamps on a bayonet fitting and when turning the trolley pole the conductor had to unclip the retriever and plug it into the fitting at the other end. Not all trams had trolley retrievers.

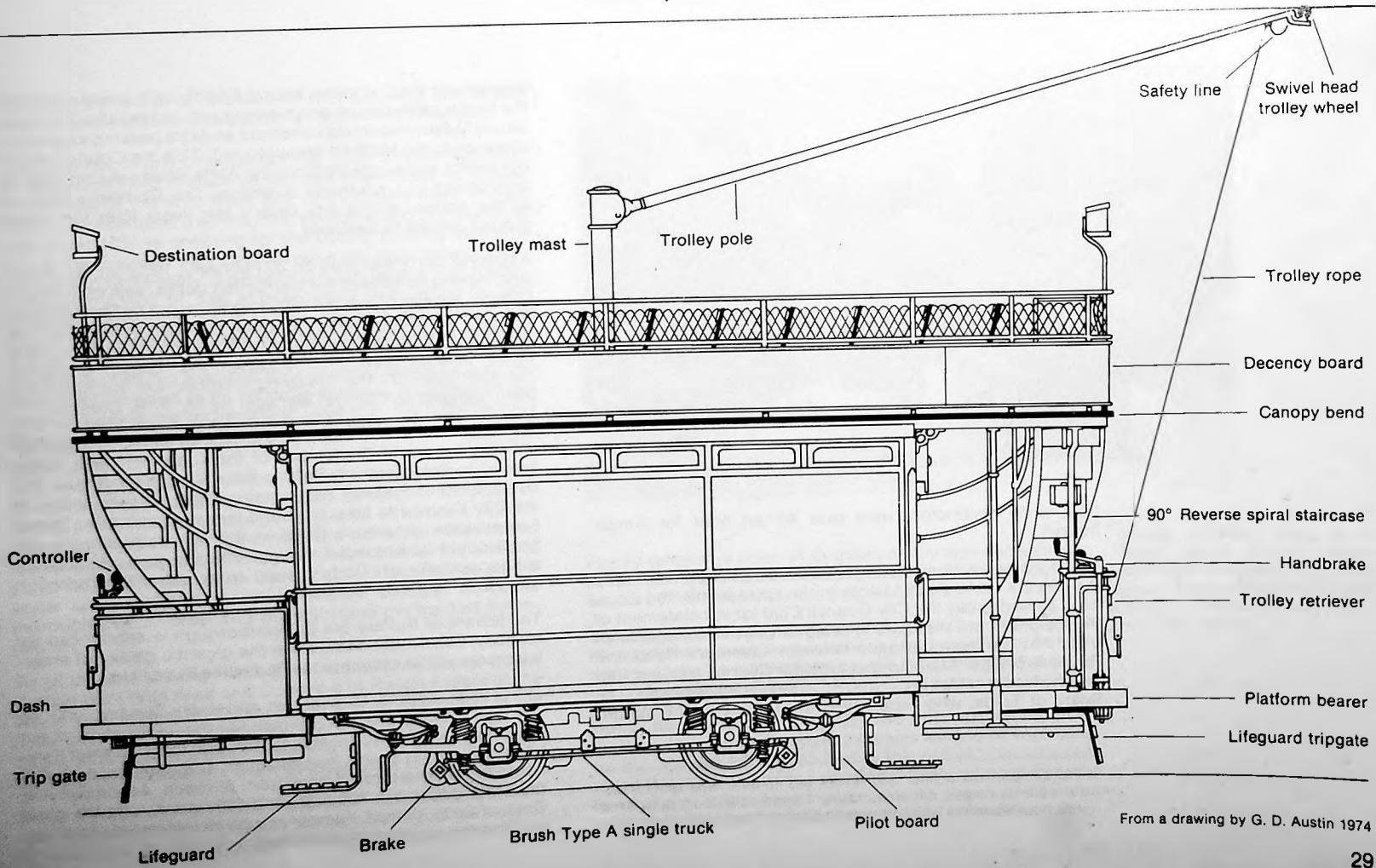
Waist panel

This and the rocker panel were well braced on the inside by truss rods fitted with turnbuckles used during the construction of the car body for the "squaring-up" process. The dividing rail on the inside also incorporated part of the seat construction. The curved portion of the rocker panel was known, as with railway carriages, as the tumblehome.



Trams nos I-I2

Overall length	27' 0"	Car body inside height	6' 8"
Overall width	4' 6"	Bearing in car body	22 passengers
Car body length	16' 0"	Seating on upper deck	26 passengers
Car body width	6' 3"		



From a drawing by G. D. Austin 1974



13.

Car in Long Causeway, looking towards Narrow Bridge Street, c.1912. Photo courtesy Photographic Ltd., Hatfield.

25/-, while conductors were paid 4d. an hour for similar hours²⁵.

The Dogsthorpe route was opened on 31 January, 1903, and the Newark route on 28 March. In the same month the Company agreed to pay the City Council £100 for reinstatement of the footpath from Westgate to Craig Street, and to replace all trees that had been damaged between Taverner's Road and Rhubarb Bridge. At about this time the Council also insisted that the feeder cables in Lincoln Road be placed overhead. The Board of Trade, who were asked to arbitrate in the matter,

²⁵ For comparison, a fitter and turner at this time received £1/16/- for a 53-hour week, and a bricklayer's rate was 9½d an hour for a 49½ hour week, his labourer getting 5½d an hour.

agreed with the Company, and on 8 April, 1903, it was ruled that the feeder cables must go underground. In May the Company requested permission to construct an extra passing loop at the entrance to the Millfield Showground. This the Council would not permit and suggested that the Alma Road passing loop be lengthened in a southerly direction. The Company took no further action, and in any case a few years later the showground moved to Eastfield.

A farewell party was held on 20 February, 1903, for Mr. Porter who, having completed his instruction duties, was returning to London. He was presented with a water colour by Mr. Yeomans and also a leather wallet; Mr. F. G. Kerrigan entertained the party by singing Irish songs of his own composition. Among those present was Mr. O'Toole, the Brush Company representative. By the following October, Mr. Kerrigan had been replaced as General Manager by Mr. F. B. Comber.

The trams were soon put to the test of carrying capacity crowds, for on 14 September of the same first year, there arrived in Peterborough Buffalo Bill's Wild West Show. The Great Eastern Railway had obtained special permission of the City Council to take down the fence adjoining the Horse Fair meadow in London Road so that the train carrying the Show could be unloaded straight into the field. Here is the announcement of Cody's visit from the "Peterborough Advertiser":

The advent of Buffalo Bill to Peterborough is announced for Monday, September 14th, when the gigantic galaxy of entertainments will take place in the Padholme Road field.

The arrival of this stupendous show on Sunday, will be watched with the greatest interest. For the information of our numerous readers, we are able to state that the Wild West Exhibition will arrive at the Peterborough G.E. Station probably between two and three o'clock from Wisbech. Accompanying the organisation are 700 men, and 500 horses, and the great Colonel Cody himself. Yeomanry, and all interested in horses, will find the arrival a study in itself.

There will be two performances on Monday, at 2 and 8, and there is seating accommodation for over 14,000 people.

There are not, in any organisation for popular entertainment, so many hundreds of male performers and horses as appear in the arena of the Wild West, and not, in many mere 'shows' however pretentious they may be, are there such a number of men engaged in re-enacting for the public, thrilling incidents of real life in which they themselves have participated. Genuineness of personality in personation has been a distinguishing characteristic of this entertainment ever since its first organisation by Col. W. F. Cody (Buffalo Bill). While the arena performance is full of vivid stirring Wild Western scenes, it has been expanded to take in a great deal more, illustrative of strong men and their doughty deeds all over the world, and includes some splendid spectacular effects in the reproduction of the 'Battle of San Juan Hill', the most famous incident of the late Spanish-American War.

The weather conditions, which so often interfere with outdoor attractions, have no terrors for Buffalo Bill and his congress of riders, performances being given, just as advertised, rain or shine, for while the participants in the exhibition themselves are sometimes compelled to do their work in the rain, patrons suffer no inconvenience on this account, inasmuch as all the seats are protected by an immense canopy which is thoroughly water-proof and will withstand the hardest down-pours.

To all those who have a liking for reality, in whatever guise, Buffalo Bill's Wild West and Congress of Rough Riders of the World must appeal with great force. It is an exposition of the lives, pastimes, sports, and the more serious, and even the tragic, affairs of the descendants of Britons who have wrested the Western hemisphere from its aboriginal savages.

It was this genuinely historic character doubtless, to which Col. Cody and his cohorts owed the very distinguished honour of visits from her late Majesty, Queen Victoria, and the Royal



Family generally, when in England nearly two decades ago, as well as the two visits to the Exhibition within seven days last March by their Majesties the King and Queen.

The stay here of Col. Cody and his exhibition is limited to Monday of next week, and neither he nor they will ever be seen here again, as he will retire to private life at the conclusion of the present tour of England".

Hardly had the excitement of Buffalo Bill's visit faded, when once again in the same month the trams were to be kept busy, for the City was to be honoured by the visit of "The little red-faced fellah wot the troops call Bobs". General Lord Roberts, hero of the South African War, was to unveil a memorial window in Peterborough Cathedral to the men of Northamp-

14.

Two cars in Long Causeway, looking towards Barrett's Corner, c.1912. Photo courtesy Photomatic Ltd, Hatfield.

15.

Car in Westgate, looking towards Lincoln Road, c.1912. Photo courtesy Photomatic Ltd., Hatfield.



tonshire who had fallen in the Boer War. There can have been few parades to equal the one laid on for his visit. Lord Roberts stayed at Milton Hall overnight, and on Tuesday 29 September, 1903, the procession left Milton Hall for the Guildhall at Peterborough, and then the Cathedral. Lord Roberts rode in Earl Fitzwilliam's family carriage, drawn by four handsome bay horses and escorted by forty mounted men, specially picked from the Northamptonshire Yeomanry. Each carriage in turn was escorted by other mounted members of the Yeomanry. Special trains brought contingents of soldiers to the L. & N.W.R. station at Peterborough and a guard of honour was formed by the Bugle Band of the Bedfordshire Regiment, the Band of the 1st Northamptonshire Volunteers, the Band of the 3rd Battalion the Northamptonshire Regt, the Bugle Band of the Engineer Volunteers and the Greycoats, as the colourful procession proceeded from the Guildhall to the Cathedral. Other troops present were the Royal Field Artillery (Weedon

Remount Depot), The Rifle Volunteers, and contingents from the Bedfordshire Regt., the Northamptonshire Regt., and the Engineer Volunteers. All the streets in the centre of the City were congested with spectators, and it was necessary for the trams to turn back short of the terminus.

A parcel service was inaugurated by the Company in the early years, and the only local information available is that the establishment of H. B. Vergette, general furnishing and agricultural ironmongery, in the Market Place, was the parcel receiving office for the trams in the City centre. A schedule to the Peterborough and District Light Railways Order, 1900, gave details of the "Maximum Rates and Charges for Goods, Materials, Articles and Things Conveyed by the Company on the Railways"; the rates for parcels were, under 7lb 2d, 7-14lb 4d, 14-28lb 6d., 28-56lb 9d, 56-500lb "such sum as the Company may think fit"; there were also scales for horses, cows and other animals and for coal, iron, grain and a variety of other products. Parcel services were introduced generally throughout the B.E.T. group of companies in the autumn of 1905, although there is evidence that some subsidiaries began earlier. Parcels could be handed to any of the conductors, and were usually delivered beyond the end of the tram routes by parcel boys, sometimes with handcarts, sometimes carrier bicycles.

In October 1905, a dinner was held to mark the departure of the General Manager Mr. F. P. Comber for Belfast, where as the "Peterborough Standard" reported, he was to take up a superior position. Councillor Whitwell presided at this function at the Tram Depot, and in his speech said that the citizens of Peterborough were indeed fortunate in having the efficient service of the Traction Company, a more obliging and helpful body of men such as those of the Company would be hard to find. This, he said, was in no doubt due to the leadership of Mr. Comber, whom he was very sorry to see go; however he wished him every success in his new venture, and he was sure that his successor would carry on in the same tradition. Mr. Comber was presented with a handsome set of fish servers and a pair

of salt cellars. Whitwell's chemist shop²⁶ was quite close to the tram depot, and the Company was very much a part of Millfield life, many of the employees living in the area.

Mr. Comber's successor, Mr. J. C. R. Groves was to prove equally popular. Mr. Groves had started his career with the Edinburgh Horse Tramways in 1886, becoming Traffic Superintendent at Cardiff in 1890 and afterwards holding a similar position at Yarmouth. When that Company's system was taken over by the Corporation, he was transferred to the B.E.T. Company at Croydon, and from there he came to Peterborough. The new manager informed the local press that 1905 had seen an increase in passengers, mainly on the Walton Route due partly to the good weather, and also to the football matches held at New England to which there were short workings, and to tram outings which had become popular. Indeed there had already been tram weddings, one of which was that of Mr. and Mrs. Harry Redhead at Saint Mary's Church, New Road, on 29th Sept., 1904; after the ceremony the happy couple and their guests were conveyed by tram to a reception at New England, the special car being driven by Motorman Jennings, and bearing a large notice just under the destination blind. "Special Reserved Car".

In 1907, the firm of Peter Brotherhood, turbine manufacturers, moved from London to Peterborough, their factory site in London having been compulsorily purchased in order to make way for the new London County Hall. The new factory in Peterborough was built just north of Rhubarb Bridge, and the result was a large influx of new passengers for the trams: first one extra car was put on, followed by two more additional cars to augment the 5½-minute rush hour service to the factory. Mrs. Maile informed me that when Brotherhood's employees finished work for the day it was a sight to behold, nothing but trams and bicycles, and the convoy of trams was absolutely packed, including even the driver's platform, plus would-be

passengers hanging on to the outside. I can also vouchsafe that in the late twenties the early morning workmen's trams going north along Lincoln Road, were similarly packed (though I do not recall passengers on the driver's platform), and they were certainly doing more than the prescribed 12 miles per hour.

Although from examination of the press files it seems that there were fewer accidents involving trams than other forms of locomotion, there were nevertheless accidents, some quite unpleasant, as these two examples from 1907 indicate. On the morning of 8 May, a labourer from Ailsworth emerging from Padholme Road collided with a tram coming along Eastfield Road subsequently dying because of a fractured skull. Witnesses said that the tram had pulled up in less than six feet, so it is certain that the driver used the rheostatic brake. Later, on 28 September, a married lady of Palmerston Road, cycling near Lime Tree Avenue on Lincoln Road, attempted to ride between a tram and horse and cart, was struck by the side of the tram and sustained the loss of a hand and three fingers.

In 1909 the Company applied to President of the Institute of Electrical Engineers, asking for an arbitrator to be appointed to consider an application from the Company for a reduction in the price of electricity supplied by the City Council. The enquiry occupied five days and was held by Sir Alexander Kennedy at the Surveyors' Institute, Great George Street, Westminster. The Company was represented by Eustace Hills and the Corporation by Mr. W. J. Jeaves. The arbitration award determined the price at 2d per unit for the first 120,000 units consumed in each year and 1½d per unit for all in excess of that quantity. This agreed substantially with the offer made by the Council to the Company before the hearing and it was generally considered that the Council had a legitimate grievance in being ordered to pay the cost of the enquiry, amounting to nearly £2,000. The following year when the electricity estimates came before the Council, there were bitter feelings against the Company, it being claimed the Company had received a year's supply of electricity for nothing.

²⁶ Now at the Peterborough Museum.

16.

Car passing the Princes Gardens stop, Eastfield Road, c.1912. Photo courtesy Peterborough Public Library.



In the same year, complaints were made to the City Council about the tramway system, and a petition was submitted by twenty residents living along the routes. They complained that the trams were the noisiest in England, the track was in a bad state of repair, there were split rails, the track was lower in places than the surrounding tarmac causing huge puddles, the track was full of dust and dirt, the drainage system was neglected and the point boxes were never greased. All these complaints were forwarded to the Board of Trade with a request for an inspection.

On June 10th 1909, the Board of Trade Inspector, Colonel Druitt, R.E., came to Peterborough. He was received at the Guildhall by the Mayor, Alderman A. J. Tebbutt J.P., Aldermen Beaver, and Clifton, Councillors Barford, Thompson, Whitsed, Stanley, Vergette, Riseley, W. Cliff J.P., and T. C. Lamplugh,

J.P. Also in attendance were the Deputy Town Clerk, Mr. W. T. Mellows, the Borough Surveyor, Mr. J. W. Walshaw, Mr. H. G. Rowledge, and Mr. J. C. Gill who was City Engineer, Engineer in Charge of the Waterworks, Engineer in Charge of the Electric Light Works, and in his spare time Chief of the City Fire Brigade.

A special car was provided by the Company, and the Council deputation protested that the inspector should have been able to pick any tram at random, as it was obvious that the Company would have sent their best car. Alderman Tebbut immediately recognised Colonel Druitt as the Officer who had passed the tramways in the Winter of 1903, and was grumbling in stage whispers that it could hardly be expected that the officer who had passed them in the first place would now fail the system. At this juncture Colonel Druitt dispensed with the special car, and decided to inspect the whole installation on foot; Council officials who were good walkers could join in if they wished. The special car was not used until the inspection was complete, and then only to get back to Town centre. Colonel Druitt returned to the Board of Trade, informing the Council that they would receive his report in due course.

His report was received and read at the Council meeting of July 3rd. He said that the trams were no noisier than other systems, and that the petitioners probably thought them noisy because of lack of other traffic: he had certainly found one split rail which the Company was promptly replacing, but apart from that the track was in fair condition, all rails on curves being greased twice a week (this was to prevent the squealing noise made by flanged wheels traversing sharp curves), and all drain boxes and point boxes were cleaned out every Saturday. The dirty track and roads, he added, were caused by the Council's failure properly to clean and maintain their part of the highway. The Council meeting broke up in a storm of indignation.

From the beginning of 1910, the Company, along with the other B.E.T. associated companies, introduced the "Fair Fare

System". This was a 'gimmick' in which the parent Company stated that they were about to confer an immense benefit on to the street-travelling public. Every passenger would be enabled to travel a fair distance for a fair fare; for this purpose it was necessary to call in the humblest coin of the realm and every passenger would soon begin to appreciate the use of farthings in facilitating cheap street transit.

The route was divided up into quarter of a mile sections, each section being identified by white stripes painted around the standards, then black stripes, then white and so on; to each $\frac{1}{4}$ mile terminal pole was affixed an oval plate bearing the stage number, alternatively a white number on black background or a black number on white background. When a passenger boarded a car and paid his fare, the conductor punched the ticket opposite the number of the stage to which the passenger was entitled to travel, and so, for instance, if he boarded at Stage 2 he was entitled to travel to any point up to Stage 5 for a penny. The planners were under the impression that because farthings were in common use by drapers, bankers, tobacconists, and other shopkeepers, there would be plenty in circulation for the trams, but nevertheless found it necessary to issue books of farthing tickets, which were accepted by conductors in lieu of cash. By the 1914-18 War the system had died a natural death, for, quite simply the public could not be bothered to mess about with farthings.

Some time in 1910, or just after, — no evidence appears as to the exact date — all overhead wire was changed from round section to figure of eight section. The supplementary half ears and strainer wires being removed, it now was possible to use clamps to support the overhead wire. After this alteration dewirements became a great deal less frequent, except, it seems, at "Barrett's Corner", where a fair number of trolley wheels were pulled out. These would not fall to the ground as they were secured by a safety line, and were purposely made as a tight push-on fit on the trolley pole so that in the event of a dewirement, they would come off and not get fouled up in the span wires. There were also several derailments at this point.



In the Coronation year of 1911, Mr. W. Smith, the General Manager²⁷, recorded that the trams had travelled a total of 229,584 miles and carried approximately one and a third million passengers.²⁸

17.

The accident at Lincoln Road corner, October 1914. (See page 37.) Photo courtesy Mr. P. Waszak.

²⁷ He had taken over in 1908 from Mr. Groves who transferred to Worcester.

²⁸ Between 1903 and 1910 the total number of passengers was recorded as 11,633,943.

A Depot group in World War 1. Mr. V. Yeomans is marked 'X', and the gentleman in the pork pie hat is Mr. Smith the Engineer. The trolley retrievers have been removed and the car painted in the later green livery, with the headlamp masked out as a precaution against Zeppelin raids. Photo courtesy Peterborough Evening Telegraph.



"Jimmy" Culshaw joined the Peterborough Electric Traction Company as Inspector in 1912. He started his career at the age of fourteen, driving a horse-drawn wagonette near Preston, moving in 1901 to Lytham St. Anne's, where he became a conductor on that system's gas trams, at 22/- for a 60-hour week. In 1902 he transferred to the Dewsbury, Battley and Birstall Steam Tram Company. Steam trams were drawn by an engine separate from the passenger car, and Inspector Culshaw used

to recount how it was necessary to uncouple the engine each time it reached the terminus, and run it round the car; on Saturdays and at other peak periods, the engine had to tow two cars which made the going very slow. In 1903 the system was electrified, and when Mr. Culshaw left to come to Peterborough he had performed the duties of tram-conductor, — driver, — regulator and — inspector.

In connection with discipline I was told the story of how Inspector Culshaw had arranged for drivers to be issued with white coats, to be worn from 1st May. One 1st May it was particularly cold and a driver turned up for duty without his white coat. Inspector Culshaw, I am told, had the drivers and conductors on parade and gave them a verbal lashing which would have done an R.S.M. credit. "In future", he said "white coats will be worn with effect from the 1st May". Some administrative staff thought the Inspector had been a little unjust, but he was the Senior Inspector and that was that.

For some years prominent citizens, and Councillors south of the river had made pleas in the press and petitions to the Company to extend the tramways over the river into the South Ward and the surrounding areas of Old and New Fletton, Woodston and Stanground. The Company, however, appeared reluctant to commit itself to this, and after the intervention of the 1914-18 War, the suggestion was not put forward again.

During those four momentous years the conductor strength was maintained by the recruitment of women and temporary drivers to replace those who had enlisted or been called to the Colours. Despite this, the system remained comparatively free from serious accident, although it appears that one or two daredevils, coming down the slight incline from Lincoln Road East towards the town at too fast a pace, derailed their cars at the entrance to the Boroughbury Loop. There is the story of one driver (told me by a Mr. Coles of Fletton, himself a wartime driver), who on nearing the Market Place, formed the habit of allowing the tram to coast, removing the controller handle, carrying it through the car while it was still in motion, replacing

it at the rear controller, and winding on the handbrake while looking backwards over his shoulder. One day, however, the car was crowded and he became trapped in the saloon. This brought him near to panic and by the time he had disentangled himself and raced back to the front end, the car had run off the track. The crew were able to ground the car by holding a point iron tight to the track and pressing it against the car metal work, and then bringing the car an inch at a time back on to the track. I am inclined to think that this procedure would be against the Company rules, and that strictly speaking they should have taken the trolley pole from the wires and pushed the car back by hand. This may have involved sending for more staff and thereby revealing their crime in running off the track, and so providing there were no inspectors about, two could manage by the described method. The action taken could, however, be very dangerous to say the least, for if a tram was off the rails and the trolley pole placed on the wire with the current switched on, anyone touching metal parts of the tramcar was liable to receive a very severe shock indeed. Whoever therefore held the point iron in this case, and it is certain it was the conductor, had under no circumstances to lose his grip.

A photograph has recently come to light showing a tram accident at the Lincoln Road-Westgate corner in October 1914, although I have been unable to find out any further details. It is fairly clear from the photograph that the trolley pole had become derailed and instead of the trolley wheel pulling out, it had fouled the overhead; the car had coasted on and with the now firmly entangled trolley pole staying out, the trolley mast had been wrenching right out of its seating, falling to the ground and injuring one man in the process.

In 1916 Peterborough was visited by a thunderstorm of quite extraordinary violence which started in the early hours of 28 March and continued with increasing violence until six o'clock in the evening. The hurricane was followed by a great downfall of snow which caused heavy damage and practically cut off communication with the outside world. Between sixty and seventy telegraph poles were blown down and at Walton some



19.

Henrietta Ruth Smith, Peterborough's first lady tramdriver, 1917. Photo courtesy Mrs. W. Cowling, Scunthorpe.

20.

A P.E.T. group, 1923, on the
departure of Mr. Blake, the General
Manager.
Photo courtesy
Mrs. C. Munton.

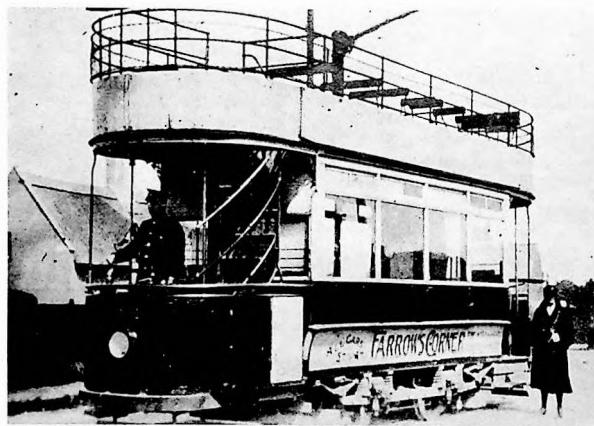


of them fell across the overhead, bending the standards and fusing the circuit. The tram services were disrupted for a considerable time.

Services on the Newark and Dogsthorpe routes were severely curtailed during the War, the Newark service being operated by one car only. Difficulties were being experienced by all tramway systems at this time, not only in getting staff but also in obtaining spare electrical equipment, as the manufacturers were fully engaged on war work. At some period during the War the Dogsthorpe route must have been stopped completely, for in the "Peterborough Advertiser" of Friday 21 November 1919, there is a notice to the effect that the Dogsthorpe route would be starting up again on Monday 24 November. In the event of a warning of a Zeppelin Raid, tram drivers were instructed to put out all lights and return to the depot immediately. During the latter part of the War a small number of women were trained as drivers, the first of these being Mrs. Henrietta Ruth Smith. A photograph exists of her at the controls of car No. 14, in Lincoln Road just before the points to the depot, taken in November 1917. In tramway systems where the handbrake was used for service stops²⁹ it was not at all usual to employ women drivers, as the handbrake needed about two and a half turns to put it firmly on, which required a considerable amount of purchase. It was possible to ease the situation by putting the controller handle to the first notch of the rheostatic brake, and then winding up the handbrake, but I do not know if this procedure was allowed in Peterborough. Too frequent use of the rheostatic brake was generally frowned on because of the consequent heating up of the resistances. The passing out of drivers during and after the War was left entirely to the Company examiners. The practice of having a policeman on the platform during the test was stopped because of shortage of manpower and was not, as far as I can find out, resumed when the War was over.

²⁹ That is, for picking up and setting down of passengers.

³⁰ He succeeded T. C. Claburn after the 1914-18 War.

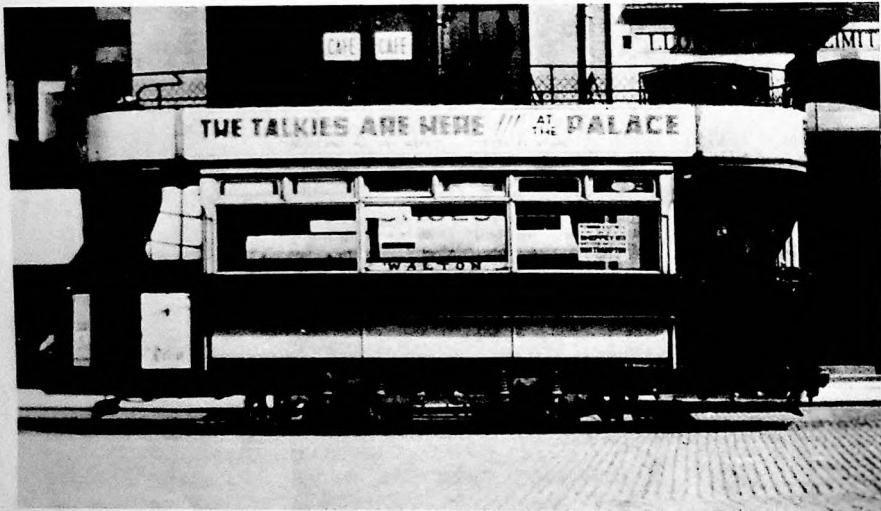


21.

Four-window car at Newark terminus, 1929. Note how by this time the platforms have begun to sag. Photo courtesy Mr. J. H. Price.

At an Extraordinary General Meeting of the Company held 15 December, 1919, a resolution was passed and confirmed to deposit with the Light Railway Commissioners a Peterborough and District Light Railways (Amendment) (Draft) Order, authorising increases in the rates, charges and fares specified in the original Order of 1900. Although the records do not give details, it is reasonable assumption that fares, etc., were increased as a result.

1923 marked the departure of Mr. Blake³⁰, and the appointment of Mr. Anderson, as General Manager. Mr. Anderson at once decided, as an experimental measure, to reduce fares for one month starting on 1 March: Market Place to Walton from 4d down to 3d, Market Place to Newark 3d to 2½d. It was hoped by this means to encourage more passengers to the trams. However, at the end of the month Mr. Anderson informed reporters that the experiment had been a great disappointment. To make it a success the trams would have needed to carry 32,000 passengers per week, but only 25,000 per week



22.

Modified three-window car, 1929. This and other photographs show that the trucks were either modified or changed some time during the late 1920's. Photo from the Dr. H. Whitcombe Collection. Courtesy The Science Museum, London.

had availed themselves of the cheaper fares. He proposed, he said, to seek the permission of the Board of Trade to put canopies on the upper decks of cars working the Walton route in order to encourage passengers to go on the upper deck in wet weather. He was not, however, very optimistic as the Board of Trade were not too keen to allow top covers on cars of 3 ft 6 in gauge lines, although such cars were operated by some companies. Mr. Anderson was referring to a Board of Trade memorandum of January 1905, where, amongst other specifications of construction and equipment for tramways, it was laid down that the use of covers for the top decks of cars could not be approved in cases where the gauge of the line was 3 ft 6 in or less. There were many protests over this regulation, and the various Tramways Companies³¹ arranged a conference with the Board of Trade to discuss the matter, held 1 November,

1905. The result was that the regulation concerning top covers was eased, and the special circumstances of each individual application to use top covers would be considered. Top covered cars continued to be used on narrow gauge systems except where steep gradients or other special circumstances caused the Board of Trade to refuse permission. I think that in a flat town like Peterborough, Mr. Anderson would have stood a good chance of getting permission for his project, but, notwithstanding, the City's trams remained open right until the end.

When in 1923, Peterborough was honoured by a visit by the Prince of Wales, the older children took me along to the North Station to await his arrival, and, emerging from the Station, the Prince gave me a special salute. My companions explained that this was because I was wearing my sailor suit, in which I had been specially 'toggled up' for the occasion. The Prince was in fact attending Peterborough Agricultural Show, by now at its permanent showground at Eastfield. It was a sweltering hot day and the show itself was marred by a particularly violent thunderstorm, in the course of which a prize pig was struck by lightning and killed, warranting large headlines in the local press, "Tragic Death of Prize Pig". The trams were so busy that spare staff were positioned in a field next to the Newark Lane passing place. Their sole task was to turn the trolley poles. After removal of the trolley retrievers, the trolley line was neatly wrapped around the trolley pole, and never allowed to hang freely, which would have been against Board of Trade regulations.³² There was a tent pitched in the field, and Inspector Culshaw ensured that plentiful supplies of lemon barley water were available. Mrs. Maile informed me that the office staff were hard pressed to keep the conductors' ticket racks replenished, and at one time there was a grave risk that they were going to run out of tickets.

³¹ Birmingham and the Black Country had the largest 3ft 6in gauge network in the world.

In the "Peterborough Citizen" at this time there appeared some interesting correspondence about the overcrowding of trams. In one letter to the Editor the writer proposed that the number of trams should be exactly doubled to eliminate the dreadful overcrowding; another correspondent proposed that there should be a 2d all-the-way fare for the whole system. "This", he said "would really bring in the cash". A third writer wanted the trams speeded up, and bemoaned the fact that when a car wanted to turn into Midgate it was necessary to leave it unattended while the driver dismounted to alter the points with his point iron, and the conductor left his platform to attend to the overhead pull-off handle. "Why on earth can't they have automatic points as in other towns?", was his final question.

The "Peterborough Advertiser" Directory of 1924 recorded that in the year the trams carried 1,393,215 passengers.

A continual source of trouble to all tramway operators were the fishplates joining the rail sections, the securing bolts of which, despite the substantial construction, worked loose after a period of time. This allowed the adjacent ends of rail to ride up and down, gradually magnified the wear on the fishplates and track, and gave the passengers a rough ride. The Peterborough Electric Traction Company had been no exception in experiencing this trouble and in 1925, when Mr. R. C. Hodson had been General Manager for two years, it was decided to achieve a lasting solution by welding the joints.³²

³² There appeared to be no standard way of turning the trolley pole. Photographs clearly show, by the arrow on the canopy bend, that on some cars the pole was turned on the Cathedral side at the Market Place, and on some on the Guildhall side. To turn the pole right round would, of course, have strangled the power cable. Not all trams had trolley retrievers (see drawing on p.29).

³³ As early as 1899 the advantages of track welding had been realised and Britain led the world in the speed with which the process was adopted and the extent to which it was introduced. The British average four-wheel open-top double decker tram weighed just over nine tons, had a high axle loading and was extremely sensitive to track irregularities.

There were four main systems of welding for tram rails: electric resistance and electric fusion, current being taken from the overhead, gas welding (either town gas or acetylene), and cast welding, there was also a process known as "Thermit" welding, which depended on the intense heat created when aluminium and oxygen combine. At Peterborough acetylene was used, dissolved in bottles, a process still at that time regarded as experimental³⁴. The contractors were the Dissolved Acetylene Company Limited, who later traded as Allen-Liversedge Ltd. Their technique was to reinforce the joints with a pressed steel shoe which took the place of the fishplate. Welded into place a pair of these shoes, back to back, formed a sort of hollow beam which made the joint extremely rigid and strong. The process was principally used overseas, notably in France. Mrs. Maile often recalled how spectacular was the light from the acetylene torches, especially as darkness approached.

The Peterborough trams came to a complete standstill during the General Strike of 1926, the employees seemingly all members of their appropriate Trade Unions. A temporary 'bus service was arranged, and the 'buses manned by volunteers. The "Peterborough Citizen" at this time carefully avoided giving names, but in its report described them as distinguished young citizens, the conductresses being "dainty young misses of good family".

23 June, 1927, was the occasion of the Jubilee of the Peterborough Co-operative Society. 2,000 children attended a huge tea party at the Co-op Hall in Park Road, and after the tea were taken by special trams to the sports being held at the Co-op Sports Ground at Newark. There must have been two convoys of trams, because the local press described the children as a

³⁴ Before this the acetylene was manufactured on the premises from the interaction of water and calcium carbide, a special oxygen blowpipe being required which pulled the acetylene forward on the injector principle.

pretty sight wending their way through the Stanley Recreation Ground to the trams waiting near Saint Mary's Church, and quite a large number of children from the New England area of course came by tram to Westgate to attend the party. It so happens that I was at this tea party with my friend, also a tram enthusiast, and we boarded a tram which was part of the convoy waiting in Westgate. The crowds were being marshalled by Inspector Culshaw, looking very harassed as might be expected with 2,000 juvenile passengers milling about both in this vicinity and the St. Mary's passing loop area. There was, I recall, a certain amount of shunting in Westgate, cars backing on to the down line to let the service cars go by. When the convoy started, each car in turn entered the short piece of single track in Long Causeway, turned the trolley pole, and proceeded to Newark. Since my friend and I were only interested in the tea and the trams, being, to the disdain of some of our friends, bored stiff with the sports and the opening of the Jubilee Homes, we decided to come home by the ordinary service tram. Just after passing Broadway Junction the overhead wire snapped. It was quite alarming, the trolley pole went nearly vertical, the wire snaked across the upper deck rails on the opposite side of our seats and the conductor with great speed rushed up the stairs and cried out, "Everybody get down on the floor". However, the current must have switched off at the nearest section box at once, for the sparks that I instinctively expected did not materialise. After about ten minutes wait another car came from the town direction and we transferred to that car and carried on to the Market Place. The break must have therefore been near to a section point, and very likely caused by the passage of so many cars to Newark. The incident received prominent headlines in the local press at the time.

The End of the Trams

By the late 1920's, the Company was beginning to place its confidence in the motor 'bus³⁵. As early as 1913 a 28 hp Straker Squire charabanc and a Straker Squire omnibus³⁶ had been purchased for services to outlying districts. The Watch

Committee minutes for 1915 show that the Company received licences for four motor 'buses coming from the Barnsley Traction Company, to replace four Peterborough 'buses which had been commandeered by H.M. Forces. By 1925,³⁷ however, the 'bus fleet still did not amount to more than nine vehicles, used in the main on the Stanground, King's Dyke and Whittlesea feeder service. They would sometimes wait near the General Post Office in Cumbergate, until called to go forward to the tram terminus against the "White Hart".

In a Return of Allotments of Shares, 30 July, 1928, after the conversion of the share capital into £1 shares of 8,400 Ordinary Shares issued at this time, 6,300 were taken by the Tilling and British Automobile Traction Limited,³⁸ R. M. Tilling having become a Director.

³⁵ As early as 1905, the Peterborough City Watch Committee received applications for a motor omnibus licence from the Peterborough Motor Bus and Agricultural Motor Company, and the Montgomery Motor Company (of 14, Lincoln Road). Both were granted a licence for an eleven-passenger vehicle, although it appears from advertisements that the Montgomery Motor Company vehicle was not on a regular service, but was for hire. At a meeting of the City Council on 17 August, 1910, there was considered a communication from the Non-County Boroughs Association urging the investment in Trolleybuses, being lighter and far cheaper to construct and run than the trams. Several Councillors displayed their total ignorance of this means of transportation.

³⁶ The interior was lit by acetylene lamps.

³⁷ **Tramway and Railway World** for 23 March, 1925, reported that the B.E.T. had allocated two open-topped double decker 'buses to the Peterborough Company.

³⁸ The Manager of the Peterborough Electric Traction Company, R. C. Hodson, took 500 and Walter Smith, Engineer, and James Toon, Inspector, 50 each.

23.

Car in Long Causeway, 1929, with, in the back-ground, a connecting omnibus for Whittlesea. Photo from the Dr. H. Whitcombe Collection. Courtesy The Science Museum, London.



The Company decided in 1930 to approach the City Council to find out their attitude to the substitution of the trams by 'buses. A conference was held on 22 January, attended by three Company and four Council representatives. The Council made it clear that they would not oppose the Company's proposals to obtain Parliamentary authority to abandon the trams, but, as the motor vehicle licensing authority, did seek safe-guards regarding bus operation. The Company reminded the Council that the removal of the trams would relieve the Company of a statutory obligation to provide special facilities for workmen, and this should be taken into account by the Council when granting licences. A special sub-committee was set up, and it was provisionally agreed that the trams should operate for the greater part of 1930.

The Report of the Directors of the Peterborough Electric Traction Company of 5 May, 1930, gives the profit for 1929 as £4,839.7.1d. £30,793 had been expended principally in the purchase of additional 'buses and in the extension of the garage at Peterborough. The London and North Eastern and the London Midland and Scottish railways had acquired a joint interest in the Company equal to that of Tilling and British Automobile Traction Ltd., and a working agreement had been entered into with the two railway companies for the co-ordination of rail and road interests in the area served by the Peterborough Electric Traction Company.³⁹

Abandonment of the trams was to begin on Bank Holiday Monday, 4 August, 1930. Eight double-decker 'buses would operate the Walton route, with a through service to Belsize Avenue, Woodston; three would be provided for the Newark, and two for the Dogsthorpe, route. As authority finally to abandon the trams had not yet been granted, the Company was obliged to continue operation of its lines to maintain statutory rights. This was done by running a single car over each route in turn from 6 a.m. to 7 p.m.

³⁹ Representatives of the L.N.E.R. were appointed to the Board of the Company earlier in the year.

This last car, No. 12, ironically the first to be delivered in 1902, was quickly labelled by the local press, "The Ghost Tram".⁴⁰

A newspaper reporter expressed sympathy for a young man seen to board the car at the Market Place, and imagined that no doubt the young man was a visitor to Peterborough who thought there was still a thriving system in the City. It did not occur to the reporter that the young man may well have been a tramway enthusiast.

A great deal of argument ensued between the Company and the Council over the removal of the "metals", as they were always referred to, probably because of Peterborough's long railway associations. The Company wanted the Council to undertake their removal and road reinstatement at 2/3d per square yard, which would have cost £2,781/2/-, the Council to have all scrap. The Council would have none of this and, as well as stating that the City Engineer's estimate for the work was £7,500, said they did not wish to acquire scrap metal. Eventually this estimate was accepted by the Company, who kept the scrap. A dispute then arose over the daily charge for current to keep the "Ghost Tram" working, the Company feeling that £3/3/- per day was exorbitant. The Company sought a compromise by offering to turn over to the Council as many disused tram standards and other materials as they were prepared to take, mainly for street lighting, if they would remit the charge for current between 31 August and the expected date of cessation of the tram service, an arrangement which was finally agreed upon.

The "Ghost Tram" commenced its last journey from the Market Place to the depot at 2.40 p.m. on Saturday, 15 November, 1930. The motorman was Mr. E. Jennings, who had driven the first service car on Saturday, 24 January 1903. Miss G. Coles was the conductress, and there were ten passengers. Mr. Hodson,

⁴⁰ The film "The Ghost Train", with Cicely Courtneidge, was showing at a local cinema at the time.

the General Manager of the Peterborough Electric Traction Company, placed a laurel wreath on the front of the Car, and the last 1½d ticket was purchased by Mr. T. Rowlands, who had also been on the first car. Inspector Culshaw bought the last 1d ticket and the ticket is still in the proud possession of his daughter. The other passengers were Mrs. Wright of 254, Lincoln Road, who had also ridden on the first car, Master J. and Miss M. Harvey (aged 6 and 8) of 285, Clarence Road, Mrs. Heather of Clarence Road, Mrs. Blackman of Silver Street, Mrs. Garwood of St. Martin's Street, and Mrs. Culshaw.

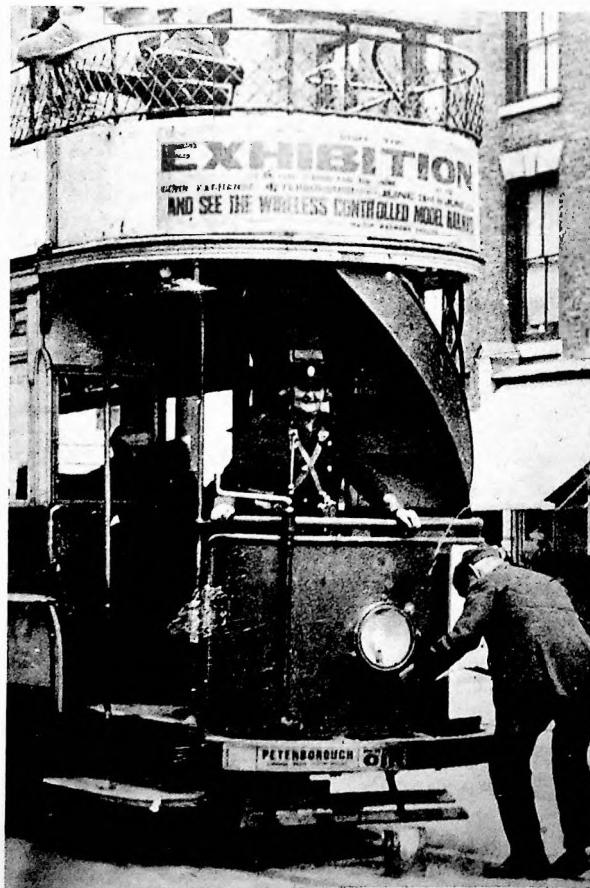
As the car entered the depot, 27 years of faithful service ended, during which time the trams had travelled between 6 and 7 million miles, carried 50 million passengers and taken between £200,000 and £220,000. The Company had, however, not been conspicuously successful, paying a small dividend in the first year, but none for the next twelve.

On 10 June, 1931, the Shareholders approved a proposal to merge the business in a new Company to be called "Eastern Counties Omnibus Company Limited". This new venture was an amalgamation of the Peterborough Electric Traction Company, Eastern Counties Road Car Company Limited, The Ortona Motor Company and the East Anglian undertaking of United Automobile Services, with a share capital of £700,000. The resolution to wind up the Peterborough Electric Traction Company was passed on 5 November, 1931.

Peterborough City Council became the owners of 188 tram standards⁴¹, 3 feeder pillars, conduits and mains. Messrs. Merediths of Coventry dismantled all the track, which was of high quality steel,⁴² beginning the work on 18 November, 1930, on a four-month contract and employing local labour. Lifting

⁴¹ 275 standards were purchased by the Staffordshire Electric Light Company for use in various parts of Shropshire.

⁴² It was the practice of all tramway systems to use high quality steel for the track and manganese steel for the pointwork, to give a long life before renewals, and the consequent complications of opening up the highway, became necessary.



24.

Miss G. Coles, conductress of the last tram (photograph taken in 1929). Photo courtesy Mrs. C. Munton.

started at Walton, proceeding towards Millfield; work was then halted and a start made on the Newark section in order to have the road cleared in time for the Agricultural Show. Dogsthorpe Road was cleared next, then the remainder of the Walton route, followed by the rest of the Newark line, this time starting at the Market Place. The last of the track was taken up at Millfield on 26 January, 1932. 950 tons of metals and 30 miles of overhead wire were dismantled by the firm, the job having taken ten months longer than was planned, probably because of difficulties in removing the metals from the concrete base in which they were embedded.*

Several car bodies were purchased by Harrison and Sego of Chapel Street, Peterborough, three of which were described as being taken to a farm in London Road as residences for workmen, others as going into farming with a Mr. Ayres of St. Neots. The water tram is said to be still intact on a smallholding at Whittlesea, but after a great deal of amateur detective work I have been unable to locate it.

All that now remains of the system is the car shed, in its original form though surrounded by other garages and with all but two of the pits filled in. The offices fronting Lincoln Road have only been altered externally by the addition of two display windows and a door.

The last tram standard at 'Farrows Corner' was taken down in 1972,⁴³ having been used with its fellow on the corner of Midgate and Broadway to support traffic lights. These two standards were extremely sturdy, being the king posts for the

Westgate, Midgate, Long Causeway junction, and needing to support a fair amount of overhead wire. This last standard was taken to the Council depot and smashed up with great vigour, warranting a newspaper photograph of the smasher-up proudly displaying, upside-down, the B.E.T. Magnet and Wheel casting from the base of the pole.

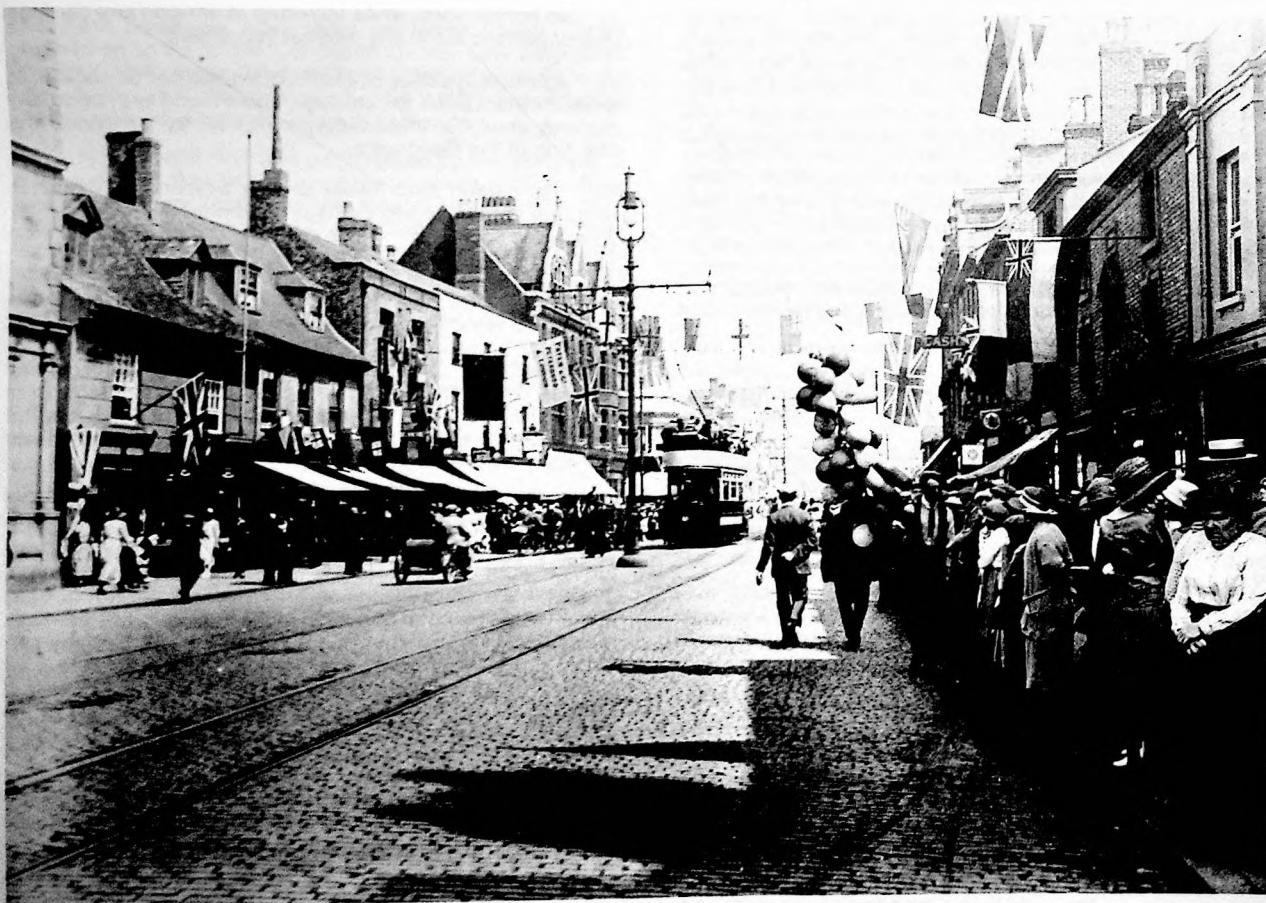
The late Mr. Jimmy Culshaw left the Peterborough Electric Traction Company on the amalgamation into the Eastern Omnibus Company and was in fact requested to sign, for a generous consideration, an undertaking not to obtain employment with any omnibus company within quite a large radius of Peterborough. He declined, however, and went to the Delaine Omnibus Company of Bourne, Lincolnshire, as their Chief Inspector, and at a grand old age of nearly ninety, could often be seen, in his uniform, on the platform of a double-decker, hanging on with great panache as the 'bus swept round the Westgate-Lincoln Road corner.

The "Peterborough Advertiser" had in November, 1930, proclaimed in large headlines that "THE TRAMS HAVE ALL GONE TO THE BIG TRAM DEPOT IN THE SKY". Not quite all have gone, however, for even now in 1975 there reposes at Crown Street, Peterborough, a tram car body being used as a summer-house. It is still in fair condition, which should not be surprising as only the best woods were used in construction and the body was well strengthened with metal bracing rods; the sliding door to the driver's platform works as well as on the day the tram was delivered to Peterborough.

* After the completion of the text of this booklet I discovered that a tram standard is still in existence outside the Methodist Chapel at Newark.

25.

Long Causeway around 1920. Photo courtesy Peterborough Public Library.



Appendix:I Bye laws

Early in 1904 the City of Peterborough Watch Committee realised that the Peterborough Electric Traction Company Limited were not displaying copies of their Bye-Laws in their tramcars as laid down by regulations, and indeed it was discovered that the Company did not have any Bye-Laws. However, the matter was quickly put in hand and the Company Bye-Laws submitted to the Watch Committee for confirmation. There were only two points on which the Committee differed from the Company: they did not wish to commit themselves as to the number of standing passengers to be allowed, and were adamant that no dogs should be allowed on the trams.

Each tram had a copy of the following Bye Laws displayed in a small window on the bulkhead to the left of the door to the Driver's platform.

The Peterborough Electric Traction Co. Ltd., Bye-Laws and Regulations

Made by the Peterborough Electric Traction Company Limited, (hereinafter referred to as "the Company") under the Powers conferred on the Company by the Railway Clauses Consolidation Act, 1845, and The Peterborough Light Railways Order 1900.

I. The Bye Laws and Regulations hereinafter set forth shall extend and apply to all carriages of the Company, and to all places with respect to which the Company have power to make Bye Laws or Regulations.

II. Every person shall enter or depart from a carriage by the hindermost or Conductor's platform and not otherwise.

III. No person shall smoke inside any carriage, or any compartment of a carriage not especially provided for that purpose. Any person offending against this Bye-Law is liable, in addition to incurring the penalty below mentioned to be summarily removed at the first opportunity from the carriage.

IV. No person shall spit in or upon any carriage.

V. No person shall, while travelling in or upon any carriage, play or perform upon any musical instrument.

VI. A person in a state of intoxication shall not be allowed to enter or mount upon any carriage, and if found in or upon any carriage shall be immediately removed by or under the direction of the Conductor.

VII. No person shall swear or use obscene or offensive language in or upon any carriage or commit any nuisance in, or upon, or against any carriage, or wilfully interfere with the comfort of any passenger.

VIII. No person shall wilfully cut, tear, soil, or damage the cushions or the linings, or remove or deface any number plate, printed or other notice, in or on the carriage, or break or scratch any window of or otherwise wilfully damage any carriage. Any person acting in contravention of this regulation shall be liable to the penalty prescribed by these Bye-Laws and Regulations, in addition to the liability to pay the amount of any damage done.

IX. A person whose dress or clothing might, in the opinion of the conductor of a carriage, soil or injure the linings or cushions of the carriage, or the dress or clothing of any passenger, or a person who, in the opinion of the Conductor, might for any other reason be offensive to passengers, shall not be entitled to enter or remain in the interior of any carriage, and may be prevented from entering the interior of any carriage, and shall not enter the interior of any carriage after having been requested not to do so by the Conductor, and, if found in the interior of any carriage, shall on request of the Conductor, leave the interior of the carriage upon the fare, if previously paid, being returned.

X. Each passenger shall, on demand, pay to the Conductor or other duly authorised officer of the Company the fare legally demandable for the journey.

XI. Each passenger shall show his ticket (if any) when required so to do, to the Conductor or any duly authorised officer of the Company, and shall also when required so to do, either deliver up his ticket, or pay the fare legally demanded for the distance travelled over by such passenger.

XII. Any ticket for the time being issued by the Company in respect of fares shall be only available for the carriage on or for which it is issued (except in the case of transfer or season tickets) and no passenger shall be entitled to leave any carriage for any purpose whatever at any stage and resume his journey by a different carriage to that on or for which such ticket was issued without payment of a fresh fare from the point at which the passenger entered the second or other carriage.

XIII. No passenger shall willfully alter or deface his ticket, so as to render the number, or any material portion thereof illegible.

XIV. No passenger shall use or attempt to use a ticket on any day for which such ticket is not available or use a ticket which has already been used on a previous journey.

XV. A passenger not being an artisan, mechanic, or daily labourer, within the true intent and meaning of the Statutory Provisions relating to the Company shall not use or attempt to use any ticket intended only for such artisans, mechanics, or daily labourers.

XVI. Personal or other luggage (including the tools of artisans, mechanics, and daily labourers) shall, unless otherwise permitted by the Conductor, be placed on the front or driver's platform, and not in the interior or on the roof of any carriage.

XVII. No passenger or other person not being a servant of the Company shall be permitted to travel on the steps or platforms of any carriage, or stand on the roof or sit on the outside rail on the roof of any carriage, and any passenger or other person so acting shall cease to do so immediately on request by the Conductor.

XVIII. No person, except a passenger or intending passenger, shall board a carriage and no person shall hold or hang on by or to any part of a carriage.

XIX. No person shall enter, mount, or leave, or attempt to enter, mount, or leave any carriage whilst in motion.

XX. No dog or other animal shall be allowed in or on any carriage. Any dog or other animal taken into any carriage in breach of this Regulation shall be removed by the person in charge of such dog or other animal from the carriage immediately upon request by the Conductor, and in default of compliance with such request may be removed by or under the direction of the Conductor.

XXI. No person shall enter, get upon or travel in or on any carriage with loaded firearms, or with any article, instrument, or implement which may be dangerous or offensive to any passenger.

XXII. No person shall wilfully obstruct or impede any officer or servant of the Company in the execution of his duty or in connection with any carriage or Railway of the Company.

XXIII. The Conductor of each carriage shall enforce or prevent the breach of these Bye-Laws and Regulations to the best of his ability.

XXIV. Any person offending against or committing a breach of any of these Bye Laws or Regulations shall be liable to a penalty not exceeding FORTY SHILLINGS.

XXV. The expression "Conductor" shall include any officer or servant in the employment of the Company and having charge of a carriage.

XXVI. There shall be placed and kept placed in a conspicuous position inside of each carriage in use a printed copy of these Bye Laws and Regulations.

XXVII. These Bye Laws shall come into force on the 18th day of July 1904.

The Common Seal of Peterborough Electric Traction Company Limited was hereunto affixed on the 1st June, 1904 in the presence of,

SEAL OF THE
PETERBOROUGH
COMPANY.

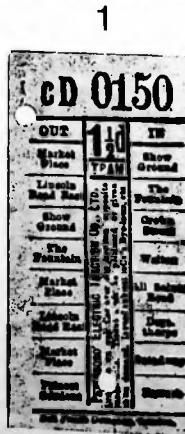
Vaux of Harrowden Directors
William J. Greer.

C. H. Godward, Secretary.

The Board of Trade hereby signify their allowance and approval of the above Bye Laws and Regulations.

Signed by Order of the Board of Trade this sixteenth day of July, one thousand nine hundred and four.

(Signed) T. W. P. BLOMEFIELD,
An Assistant Secretary.



Appendix: 2 Tickets

When I started this story I never thought that I would ever set eyes on any Peterborough tram tickets. However, knowing that Mr. W. H. Bett had a large collection of tramway tickets, I wrote to him, and to my great pleasure he was able to send me photographs of Peterborough Electric Traction Company Tickets, and I have included Mr. Bett's own notes on these tickets:

Tickets illustrated are as follows:

(1) **Dg 9876** — The earliest type, dating from soon after opening. Typographical evidence shows that it was printed not long after the turn of the century; therefore cannot be long after the opening in 1903. Unusual features are that the ticket is detached from a perforated *roll* and punched with a non-registering nipper. There were only two or three other systems throughout the country, (for example Norwich, Coventry, before municipalisation) which did this. Use of roll tickets had certain advantages: it was impossible to take two tickets sticking together in error for one and for the passenger to see the ticket actually detached from the roll in his presence was a good guarantee that the conductor was not "fiddling" by reissuing a second hand ticket. The chief difficulty was that there was no very convenient form of holder for more than a few rolls that was reasonably portable; a tin cylinder was used containing a spindle on which the rolls were threaded, the tickets emerging through a slit. Much more usual was the use of individually cut tickets in packs of 50 held together by a nail and mounted in a spring clip rack, which could be of almost any size; a registering bell-punch was then used (and sometimes with roll tickets too, but with the latter the bell-punch was often, as here, dispensed with, as it was considered sufficient for the passenger to see the ticket freshly detached from the roll). 1d ticket, white, for first stage on Lincoln Road (i.e. Walton) route, where the depot was. Stage expressed in "full geographical" form, i.e. both ends of the journey specified by name.⁴⁴

(2) **11/9660** — ticket, white, of "Fair Fare" system. This system was introduced throughout the B.E.T. empire in January 1910 (note registered number of patent or copyright at foot of ticket), the idea being to give fair value for money irrespective of point of boarding by dividing the line into very short **farthing** stages, which were numbered, shown on the tickets in black and white boxes alternately, and indicated on the traction poles by black or white bands and numbers. 1½d, and sometimes other odd-farthing fares were provided for. A 1d fare took you 4 of these ¼d sections, hence numbers 1-4, 2-5, etc. opposite one another on the ticket (so-called "fareboard" punching). There were 10 sections, and so all the way on the longest route would cost 2½d. This is not a roll ticket and is bell-punched.

(3) **Ab 4109** Latest style of distinctively tram ticket, late 1920's. 1d **pink**. Note word "Tram" under fare; evidently some 'buses were already being operated in addition. Ticket punched in commencing stage number; of which there were 8, being ½d stages.

(4) **cD 0150** 1½d **white**. After abolition of Fair Fare system but before reintroduction of numerical stages. Stages are "fare-board geographical" — i.e. ticket takes you from Market Place to Show Ground, or any of the other two journeys listed.

(5) **Jc 6966** — Later slight variation of foregoing. Printer's imprint shows date 10-25, that is October 1925.

(6) **Ae 3436** — 2d **yellow**, dated 10-26, same style as (4) and (5).

(7) **Bg 9113** — later numerical-stage version of foregoing, contemporaneous with (3).

(8) **Ac 3614** — Slight variation of foregoing.

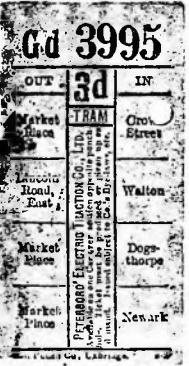
⁴⁴ B.E.T. Gazette for August, 1904, states that Peterborough (and Barnsley) issue a separate ticket for each stage, not each journey. This was almost certainly changed with the introduction of the "fair fare" system.



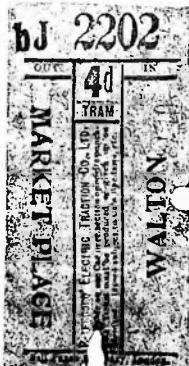
7



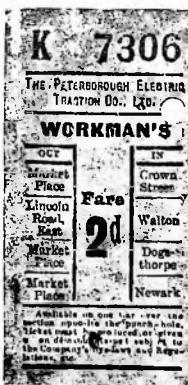
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12



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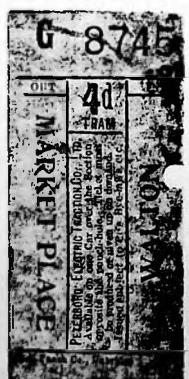
- (9) **Gd 3995**—3d blue dated 9-24, contemporaneous with (5) &c.

(10) **bJ 2202**—4d green, all the way on Walton (longest) route, contemporaneous with (4).

(11) **G8745**—slightly later variation of foregoing, dated 10-25.

(12) **K7306**—Workman's single 2d salmon of same period.

(13) **Hg 2417**—Exchange ticket, buff with green "Ex" overprint. Given in exchange for return tickets collected on return journey; this is certainly a 'bus ticket and there must moreover have been some quite long routes in this era as return fares of up to 5/6d are provided for. (Note that "Bus" is mentioned in the conditions of issue).



11

Appendix: 3

The British Electric Traction Company Empire

By far the largest of the tramway groups was that of the B.E.T., which was founded towards the end of 1895 and is still in being today. All the following tramway companies were electrified and extended under B.E.T. operation⁴⁵.

Airdrie & Coatbridge Tramway Company.
Barnsley & District Electric Traction Company Limited.
Barrow-in-Furness Tramway Company Limited.
Birmingham District Power & Traction Company Limited.
Cavehill & Whirewell Tramway Company.
City of Birmingham Tramway Company Limited.
Devonport & District Tramway Company Limited.
Dudley, Stourbridge & District Electric Traction Company Limited.
Gateshead & District Tramway Company.
Gravesend & Northfleet Electric Tramways Limited.
Greenock & Port Glasgow Tramway Company.
Hartlepool Electric Tramways Company Limited.
Jarrow & District Electric Traction Company Limited.
Kidderminster & Stourport Electric Tramway Company.
Leamington & Warwick Electrical Company Limited.
Merthyr Electric Traction & Lighting Company Limited.
Metropolitan Electric Tramways Limited.
Middleton Electric Traction Company Limited.
North Staffordshire Tramways Company Limited.
Oldham, Ashton & Hyde Electric Tramway Limited.
Peterborough Electric Traction Company Limited.
Poole & District Electric Traction Company Limited.
Potteries Electric Traction Company Limited.
Rothesay Tramway Company Limited.
Sheerness & District Electric Power & Traction Company Limited.
South Metropolitan Electric Tramway and Lighting Company Limited.

Southport Tramways Company Limited.
South Staffordshire Tramway Company.
Swansea Improvements & Tramway Company.
Swansea & Mumbles Railway Limited.
Taunton Electric Traction Company Limited.
Tynemouth & District Electric Traction Company Limited.
Weston-Super-Mare & District Electric Supply Company Limited.
Wolverhampton District Electric Tramways Limited.
Worcester Electric Traction Company Limited.
Wrexham & District Electric Tramway Company Limited.
Yorkshire (Woollen District) Electric Tramways Limited.

The B.E.T. also owned, in their later years, the companies operating the Westward Ho! railway, the Shoreham, Cambridge, Yarmouth, and South Shields horse tramways, and the Rossendale Valley steam tramway. The Company also owned at least five other companies which were authorised to build electric tramways that were never built: Worthing, Wellingborough, Halesowen, Durham and Gower Peninsula.

In a wider sphere, the B.E.T. owned companies supplying electric light and power at Lewes, Sheerness, Banbury, Stroud, Weston-super-Mare, Penarth, Merthyr, Birkdale, and Antrim, and operating electric tramways systems in Auckland (New Zealand), Bombay (India), Nelson (British Columbia), and Caracas (Venezuela). Further it owned the Immisch Electric Launch Co., Ltd. of Hampton Court, and held a substantial interest in Raworth's Traction Patents, Limited, and the Brush Electrical Engineering Co., Ltd.

⁴⁵ This appendix is derived from *Great British Tramway Networks*, W. H. Bett and J. C. Gillham (3rd edition), Light Railway Transport League, 1957.

